

# AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, FINANCE,

INSURANCE, BANKING, MINING, MANUFACTURES.

**HENRY V. POOR, *Editor.***

SATURDAY, JUNE 25, 1859.

**Second Quarto Series, Vol. XV., No. 26.—Whole No. 1,210, Vol. XXXII.**

**ESTABLISHED IN 1831.**

**NEW-YORK:**

PUBLISHED WEEKLY, BY

**JOHN H. SCHULTZ & CO.**

Front Room, Third Floor,

**No. 9 Spruce Street.**

**MARSHALL THERILLES & BROTHER,  
No. 20 and 22 Beekman St., NEW YORK.**

# ROOFING, FLOORING OF RAILWAY BRIDGES, ETC.

## GALVANIZED SHEET IRON, CORRUGATED OR PLAIN;

ORDINARY SHEET IRON PREPARED IN THE SAME WAY.

Plans and Estimates given for IRON ROOFS to be erected in any part of the UNITED STATES.

**Cornices, Gutters, Ridge Caps, Leaders, Spouts, etc.**



### CORRUGATED IRON BUILDING COMPLETE.

FOR CORRUGATED IRON ROOFS we refer to Buildings in the New York Navy Yard, the New Depot of the New Jersey Railroad and Transportation Company at Jersey City, Capitol Extension at Washington, U. S. Custom Houses, etc., in various parts of the UNITED STATES.

The subscribers have constantly on hand and for sale:

Galvanized RAILROAD SPIKES,  
Galvanized SHIP SPIKES,  
Galvanized SLATING NAILS,  
Galvanized LIGHTNING RODS,

Galvanized HOOP IRON,  
Galvanized CUT and WROUGHT NAILS,  
Galvanized WIRE,  
Galvanized SCREWS,

Galvanized SHEATHING NAILS,  
Galvanized RIVETS,  
Galvanized SHEET IRON, of all Widths  
and Gauges.

### CORRUGATED SHEET IRON FOR ROOFING.

### PLUMBERS AND STEAMFITTERS' BRASS WORK.

SHOT, PIPE AND SHEET LEAD.

Pig Lead, Pig Iron, Sheet Iron, Tin Plates, Spelter, Banca and Straits Tin, Ingot Copper, Braziers' Sheets, and other Metals.

MARSHALL LEFFERTS & BROTHER,  
Nos. 90 and 92 Beekman st., NEW YORK.

# AMERICAN RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, FINANCE,

INSURANCE, BANKING, MINING, MANUFACTURES.

HENRY V. POOR, *Editor.*

ESTABLISHED IN 1831.

PUBLISHED WEEKLY BY J. H. SCHULTZ & CO., AT NO. 9 SPRUCE ST., NEW YORK, AT FIVE DOLLARS PER ANNUM.

SECOND QUARTO SERIES, VOL. XV., No. 26.]

SATURDAY, JUNE 25, 1859.

[WHOLE No. 1,210, VOL. XXXII.

Messrs. ALGAR & STREET, No. 11 Clements Lane, Lombard Street, LONDON, are the authorised European Agents for the *Journal*.

## PRINCIPAL CONTENTS.

Chicago and Milwaukee Railroad	401
Ohio and Mississippi Railroad	402
Northern Railroad of New Hampshire	403
Morris and Essex Railroad	403
Journal of Railroad Law	404
Treatise on the Principle of Civil Engineering as Applied to the Construction of Wooden Bridges	405
A New Mode of Making Iron	406
Railroad Earnings	497
What is to be Done to Make our Railroads Profitable?	408
Why the Net Income of our Roads is not in Ratio to the Gross Receipts	408
Rock Island Railroad	408
Railroads of New Hampshire	409

## American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO. NO. 9 SPRUCE ST.

New York, Saturday, June 25, 1859.

### LaCrosse and Milwaukee Railroad.

Mr. Newcomb Cleveland, President of what remains of the old LaCrosse Company, has issued a presidential circular to the public generally, in which he gives the following analysis of the reports of the company for three consecutive years:

	1857	1858	1859
Capital stock	\$2,031,200	\$6,555,574	\$10,872,000
City Milwauk'e	314,000	314,000	319,000
1st mort. E. div.	942,500	921,000	903,000
2d " "	1,000,000	1,000,000	
Farm m. bonds	913,500	1,108,400 inc. in stock	
3d m. bonds		2,000,000	
Con. 5 year b'ds	107,000	107,000	107,000
Con. bonds	35,800	210,000	210,000
1st m. l'd grants		2,500,000	4,367,500
2d " "		353,600	
Const. of 1862.	704,000	704,000	
" 1867.	764,000	764,000	
Interest scrip..	33,566	33,566	
Real est'te b'ds.	6,000	6,000	
S. Ch a mber- lian's judgm't	629,090	785,587	
N. Cleveland's judgment	114,000	136,000	
Floating debt..	68,607	660,478	75,000
Total.....	\$4,412,607	15,980,708	22,282,653

Increase in 1858, \$11,568,101 : increase in 1859, \$6,301,945. Total increase in two years, \$17,870,046.

### Chicago and Milwaukee Railroad.

The report of this company, embracing a period of fourteen months from November, 1, 1857, to Jan. 1, 1859, has just been received. The fiscal year of the company formerly terminated on the 30th November. For the purpose of comparison, therefore, the earnings for the 12 months to Nov. 31st, and for the succeeding two months, are given separately. They are as follows, viz:

	Passengers.	Freight.	Mails, etc.	Totals.
Nov ..	\$15,741.90	4,277.79	355.51	20,375.18
Dec ..	12,462.18	6,005.70	252.72	18,720.60
Jan ..	9,300.21	4,889.03	271.31	14,460.55
Feb ..	7,938.12	3,908.29	1,369.85	18,216.26
March ..	11,685.14	5,493.13	289.84	17,468.11
April ..	14,469.50	4,575.25	1,112.07	20,156.82
May ..	13,256.43	3,110.91	1,686.20	18,053.54
June ..	12,836.61	2,508.30	1,885.79	17,230.70
July ..	12,791.42	2,556.35	1,200.22	16,547.99
Aug ..	12,088.58	12,293.68	683.06	14,901.32
Sept ..	13,800.95	3,032.61	1,053.87	17,887.43
Oct ..	14,709.04	5,226.16	565.01	20,500.21

12 mos	151,080.08	47,718.18	10,725.45	209,518.71
Nov ..	12,467.90	3,940.23	1,557.35	17,965.48
Dec ..	10,242.94	4,998.46	561.34	15,797.74

14 mos 173,790.92 56,546.87 12,844.14 243,281.93

The expenses for same time were:

To November 1, 1858	....	\$92,901 56
To January 1, 1859	....	15,096 29

107,997 85

And the net earnings were:

To November 1, 1858	....	\$116,617 15
To January 1, 1859	....	18,666 93

135,284 08

From which deduct:

Taxes for 1857-'58	....	\$11,867 16
Interest on 1st mort. bonds	35,805 00	
" Income	8,157 80	
" Real estate	3,575 00	
" Divid'd certific's	11,617 69	
" Float'g debt incl'd'g disco't & exchange	14,526 40	

85,549 06

Leaving the sum of..... \$49,735 03

—which is more than five per cent. on the capital stock, and which might be considered available for dividends were it not in this instance applied

towards the payment of the floating debt, and to the retirement of income bonds and dividend certificates.

In reference to the financial condition of the company, the report says:

Within the last fourteen months, the company have purchased and cancelled 15 shares of the capital stock, and the Board have passed resolutions *limiting* the total of 1st mortgage bonds (\$512,000, which are convertible), and the capital stock (\$988,000), to one and one-half millions.

Anticipating the maturity of their dividend certificates (\$115,435 00) on the first of November last, and for the further purpose of paying off their floating debt, the company issued \$300,000 of real estate bonds, running 10 years from the first of February, 1858, secured by a deed of trust of a valuable outside property not required for the business of the road, consisting of water front lots and blocks in the city of Chicago, estimated at \$225,000; and by a second mortgage on the entire road, also by a provision requiring that the company shall purchase and retire these bonds at the rate of \$10,000 per annum. \$186,000 of these bonds had been sold on the first of January, and the proceeds with accrued interest, amounting to \$169,034 75, applied in payment of obligations.

Of the \$100,000 income bonds originally issued, only \$62,000 are now outstanding, \$18,000 of them having been purchased and cancelled the last year.

Dividend certificates to the amount of \$63,845 have been paid or exchanged for real estate bonds; and the balance outstanding carry interest at 8 per cent. till they can be taken up. \$25,000 have been paid upon notes of the steamer *Planet*, maturing the past summer.

Other bills payable for discounts, land damages, depot property, etc., amounting to \$52,353 05, have also been paid.

A comparison of the capital stock, funded and floating debt, on the first of November, 1857, and the first of January, 1859, shows the following decrease:

Capital stock	....	\$1,500 00
Income bonds	....	18,000 00
Dividend certificates	....	63,845 00
Bills payable	....	77,353 05
Due individuals	....	2,091 28

Total .....

\$162,789 33

The amount of *unfunded* debt remaining on the first of January, 1859, was \$198,436 40. Of this amount \$167,876 40 will mature in 1859; the balance in 1860.

Provision has been made in the issue of real estate bonds, and in the proposed application of the net earnings of the road, to satisfy all demands for dividends were it not in this instance applied upon the company the present year.

GENERAL STATEMENT.	
Capital stock	\$988,000 00
1st mortgage bonds	512,000 00
Income bonds	62,000 00
Real estate bonds and accrued interest	188,864 75
Dividend certificates outstanding	51,590 00
Bills payable	127,687 31
Account payable	7,991 90
Unclaimed dividends	520 00
Interest scrip outstanding	295 93
Income account, Nov. 1, 1857	94,214 73
Received of other roads for account of 1857	815 59
Gross receipts for 14 months end'g Dec. 31, 1858	243,281 93
	\$2,277,262 14
Road and equipment	\$1,884,344 80
Steamboats	120,000 00
Materials on hand	22,207 15
Discount on real estate bonds	19,830 00
Bills receivable	4,000 00
Due from agents and other roads	2,508 61
Insurance and interest on steamers	10,398 80
Debts due, accounts unadjusted	12,140 20
Treasurer, cash on hand	4,870 53
Interest on funded debt, for 14 months ending Dec. 31, 1858	59,155 49
Interest on floating debt for same	14,526 40
Taxes	11,867 16
General expenditures, 1857. Paid in 1858	3,420 15
General expenditures, 14 months ending Dec. 31, 1858	107,997 85
	\$2,277,262 14

#### Bay de Noquet and Marquette Railroad.

This road extends from the shore of the bay into the interior 17½ miles, the stations being as follows: Franklin, 5 miles; Duncan's steam saw-mill, 9 miles; Negaunee (Pioneer works, and Jackson mine), 14 miles; Cleveland mine, 16 miles; and Lake Superior mine, 17½ miles. The rise of the road from the lake to the Lake Superior mine, is 850 feet, the termination being on the summit of the ridge, from which the streams on one side descend to Lake Superior, and on the other to Lake Michigan. From the termination of the road, as now laid, to where it will end on Lake Michigan, the descent is marked but gradual. During the ensuing year, the road will be extended two and three-fourths miles, making the twenty miles, which will entitle the company to one-third of the land grant to the railroads leading from this place.

The running stock of the road consists at present of two locomotives, one passenger and one hundred freight cars, capable of bringing from the mines to the bay about 600 tons of ore, or pig metal, per day. The stock, during the next six weeks, will be increased by fifty freight cars, so that the company will be able to deliver 1,000 tons of ore per day.

The road commenced operations May 9th. The receipts for the succeeding five weeks were 13,209 tons, of which 1,506 tons were of pig metal, from the Pioneer works, at Negaunee; leaving a balance of ore of 11,703 tons.

There has been shipped during the season the following amounts:

Lake Superior Iron Co., S. P. Ely, Sec'y, ore	4,178 tons
Cleveland Iron Mining Co., R. Nelson, Agent, ore	2,353 "
Jackson Iron Co., Sam'l Peck, Ag't, ore, 5,550 "	
Pioneer Iron Co., T. J. Spilman, Agent, pig iron	1,506 "
Phelps' Furnace Co., S. R. Gay, Agent, pig iron	600 "

Total shipments 14,187 tons

The number of hands employed at the several mines and furnaces are as follows: Lake Superior mine, 40 men; Cleveland mine, 40 men; Jackson mine, 40 men; Pioneer works, 800 men; and Phelps' furnace, 200; making a total of 620 men.

#### Opening of the Northern Railroad of New Jersey.

On Thursday, 26th ult., the new railroad connecting Jersey City with Piermont was opened by a celebratory excursion.

The road had long been talked of by the farmers along the line of it, but it was supposed that its cost would forbid its construction in these days of disaster to railroads. But Mr. William Sneeden, the Civil Engineer of the road, estimated that it might be done for \$17,000 per mile. They found it difficult to believe him until Messrs. Seymour & Tower offered, if \$150,000 of stock were subscribed, and \$200,000 of bonds could be sold at 90 cents, to build and equip the road for that money, taking 13 per cent. of their pay in stock, and to run it for ten years, paying 7 per cent. on the bonds, and 5 per cent. dividends on the stock. This offer was convincing; the stock was subscribed by over 300 different men; the bonds were sold in small quantities, and entirely to men along the line, and ground was broken March 31, 1858.

The lower terminus of the road, it is expected, will be located at Hoboken, after the completion of the tunnel through Bergen Hill, by the Erie Railroad Company. In the meantime, the trains will be run over the temporary track of the Erie Railroad between the slaughter House and Jersey City, arriving at and leaving the north side of the passenger depot of the New Jersey Railroad Company. From the Slaughter House, or point at which the Erie Railroad will turn for the western entrance of the Bergen Tunnel, the new railroad diverges to the north-eastward, and proceeds up the Valleys of the Hackensack and Overpeck, about two miles from the Hudson River, following the western base of the Palisade ridge to the northern terminus. The extent of the road newly constructed is 21½ miles, which, with one mile of the Piermont Branch Railroad at the northern terminus, and about 2½ miles of the Erie Railroad at the southern terminus, will make the entire length of the road operated about 25 miles. As the road crosses no navigable streams or water courses of magnitude, no draw or truss-bridges whatever are required. There are over eighteen miles of straight track on a nearly uniform level, a few feet above tide water. An abundance of timber, &c., was found along the Palisades, and the owners of property, in most cases, cheerfully conceded the right of way. With these advantages and good management, the road has been built and equipped with two locomotives, six passenger cars, two baggage and smoking cars, five freight cars, and ten platform cars, for \$17,000 per mile; whereas, the first 25 miles on the Harlem Railroad cost \$100,000, on the Hudson River Railroad \$90,000, and on the New Haven Railroad \$80,000 per mile.

This road will bring into close and convenient connection with New York City a highly cultivated region of country, which heretofore has remained in comparative seclusion. In a single day last summer, no less than two million baskets of strawberries, and about fifty tons of vegetables, passed through English Neighborhood on their way to New York markets, and still more would have been sent but for the objections which farmers have to sending fruit in wagons over rough roads. With three or four trains a day, each way over the road, as contemplated, the farmers will not only have an opportunity of sending their fruits and vegetables to our markets, but also large additional supplies of pure milk.

During the suspension of navigation on the Hudson river in winter, the importance of this railroad will be still more fully developed, for instead of a single train a day by a circuitous route of about 50 miles, passengers from Piermont, Nyack, &c., will be enabled to reach the city after an hour's ride by the new route, either in the morning, at noon, or in the evening.

As there are fifteen way-stations on the line between Jersey City and Piermont, averaging one for every mile and a half of the road, it is evident that the local travel will be pretty well accommodated. A line of telegraph is also being constructed on the line of the road, the posts for which are al-

ready down, and offices will be opened at an early day at all the principal stations.—*Dinsmore's Metropolitan and Suburban Guide.*

#### Ohio and Mississippi Railroad.

The annual meeting of the stockholders of this road was held at Cincinnati on the 6th instant, at which the usual reports were submitted.

The following is a statement of the capital account under the new organization:

LIABILITIES.	
Stock	\$6,584,681 00
Mortgage bonds	9,880,000 00
Floating debt, incurred prior to May 10, 1856	142,495 00
Wm. H. Aspinwall and associates	360,000 00
City of Cincinnati	600,000 00
Bills payable	22,767 01
Due foreign roads and others	135,668 16
Unpaid coupons of interest	1,069,110 00

\$18,794,721 17

ASSETS.	
Road, real estate, equipment and telegraph, including expenses and interest, paid and unpaid as per contra	\$18,635,687 87
Debts due from foreign roads, individuals, and bills receivable	112,857 55
Materials and wood on hand	43,429 21
Cash balance	2,746 54

\$18,794,721 17

The earnings of the road for the past year were as follows:

REVENUE.	
Gross revenue in Passengers	\$492,540 67
" " " Freight	322,750 43
" " " Express	22,099 85
" " " Mail	44,566 66

\$881,957 61

Less—uncollected of revenue	80,966 84
-----------------------------	-----------

\$800,990 77

EXPENDITURES.	
Operating expenses, 1857-'59	\$569,516 91
" " " 1857-'58	24,134 42
Construction work, 1857, '58 and '59	65,150 21
Bills payable	80,579 00
On account of old floating debt	8,665 95
Office expenses, interest, discounts, &c.	24,997 64
On account of rolling stock	5,184 19
On account of materials and wood	16,334 76
Due from individuals	3,681 15
Cash balance on hand	2,746 54

\$800,990 77

The earnings for 1857-'58 were:

REVENUE.	
Gross earnings in Passengers	\$477,469 65
" " " Freight	223,521 07
" " " Express	20,072 74
" " " Mail	34,645 14

\$755,708 60

Less—uncollected of revenue	64,634 24
-----------------------------	-----------

\$691,074 36

EXPENDITURES.	
Operating expenses	\$462,235 07
Construction work	128,838 34
Taxes, rents and real estate	28,337 27
Office expenses, interest, discounts, &c.	41,851 01
On account of floating debt	17,468 97
Due from indiv's and bills receivable	3,584 00
Cash balance in hand	8,759 70

\$691,074 36

#### Burlington and Missouri River Railroad.

We learn that the grading and bridging on this road will be completed to Ottumwa within a month. This will extend the road six miles further—on which the track will soon be laid when the grade is ready.

**Northern Railroad of New Hampshire.**

The Directors of the above road have submitted their report for the year ending March 31, 1859. The Main line from Concord to West Lebanon is 69 miles long, and the branch from Franklin to Bristol 13 miles. The earnings for the past year have been as follows:

From passengers.....	\$83,875.37
" freight .....	256,416.97
" mail, exp. and rent. ....	12,758.51
" miscell'ous sources. ....	50.07—\$353,100.92
The working expenses have been:	
For maintenance of way. ....	\$51,521.29
" locomotive departm't. ....	62,765.87
" transportation. ....	30,402.97
" general expenses. ....	21,275.01— 165,964.64

Net earnings for the year ..... \$187,136.28  
Less constr'n expend'res. .... \$26,370.26

Amt rec'd for exchange on car..... 1,000.00— 25,470.26

..... \$161,666.02

Less State taxes..... 10,145.95

..... \$151,520.10

Receipts from interest and dividends. .... \$2,363.60

Charged to income, dividends of 1858, telegraph stock, and transfer to contract account..... 134,910.86—132,547.26

Balance of income per last report ..... 167,573.54

..... \$186,546.38

Which may be considered as invested in—

\$225,000 of Northern Railroad Co. (N. Y.) second mortgage bonds..... \$33,750.00

Fuel, shop stock, etc., on hand..... 66,571.42

422 shrs. Northern R. R. Co. (N. H.)..... 17,668.50

Remainder in cash assets. 68,556.46—\$186,546.38

Not included in the above statement are unadjusted claims estimated at \$4,498.16, and assets estimated at \$526.80.

Since the last report \$17,400 more of bonds have been issued under the contracts, making the whole issue to March 31, 1859, \$385,200, the interest on which has been paid as usual from receipts accruing under the contracts. During the past year there has been purchased of that issue for cancellation \$51,000, making, with \$34,700 previously bought, the amount of \$85,700, all of which have been cancelled, and charged off before closing the accounts of this year, leaving outstanding March 31, 1859, as follows:

Bonds due Jan. 1, 1860 ..... \$35,200.00  
" due April 1, 1864 ..... 71,700.00  
" due April 1, 1874 ..... 192,600.00

..... \$299,500.00

The Contingent Fund has increased somewhat during the past year. The inventory is as follows, viz:

281 shares Northern Railroad at cost. .... \$19,559.84

\$15,000 b'ds N'th. R. due in '64 } at cost 13,175.00

\$5,000 b'ds North. R. due in '74 } at cost 8,950.00

Loans on demand, with collateral. .... 624.78

..... \$42,309.62

The operations for the two years past compare as follows:

Year end'g

March 31 Gross rec'pts Exp'ses Net income

1858.... \$365,879.70 \$240,575.47 \$125,304.23

1859.... 353,100.92 201,580.82 151,520.10

Making an increase in the net income of \$26,215.87. The decrease in expenses has partly

arisen from the low prices of material labor, and, therefore, upon a revival of business larger prices may increase the expenditures.

Upon the Bristol branch, for the same year, the Gross receipts were \$13,389.81, and the expenses \$6,619.91; net income, \$6,769.99.

The following is the balance sheet of the treasurer of the company, March 31st, 1859:

LIABILITIES.	
Capital stock.....	\$3,068,400.00
Income bonds.....	186,546.38
Bonds outstanding.....	299,500.00
Bills payable.....	12,320.65
Dividends due and unpaid.....	4,208.76
Coupons due April 1, 1859.....	8,556.00
Contingent fund.....	624.78
Coupons due and unpaid, etc. ....	89.51
	\$3,580,246.08

**ASSETS.**

Construction.....	\$3,068,400.00
Contracts.....	274,767.24
Northern (Ogdensburg) R. R. stock.....	17,668.50
" 2d mort. bonds.....	33,750.00
Shop stock, waste, fuel, and oil.....	66,571.42
Bills receivable.....	55,835.45
Cash, and cash items.....	63,253.47
	\$3,580,246.08

**Morris and Essex Railroad.**

The annual meeting of the stockholders of this company was held at Newark, on the 16th. From the report of the Directors we learn that the receipts of the company for the year ending May 31, 1859, were:

From passengers.....	\$138,217.38
" freights .....	92,391.47
" mails and miscellaneous.....	8,570.94
	\$239,179.79

And the expenses were:

Operating road.....	\$53,537.21
Repairs.....	50,389.91
Fuel, etc.....	17,407.55
Salaries .....	7,805.11
	129,139.78

Net income..... 110,040.01

Paid int. on funded debt. .... \$23,469.92  
" div. 3 per cent. on capital stock..... 34,734.15

..... 58,204.07

..... \$18,835.94

The gross receipts of the previous year were \$237,765.11; expenses same year, \$186,228.06; net earnings, \$101,537.04. The net earnings of the last year exceed those of the previous year by the sum of \$8,407.97. 287,630 passengers, exclusive of commuters and those passing free, have been carried over the road during the year, with entire exemption from loss of life or personal injury to any so carried. The number of passengers exceed that of last year by 14,271.

The present equipment of the road consists of 2 ten-wheel, 7 eight-wheel, and 2 six-wheel engines—total, 11; 15 eight-wheel passenger cars, 4 eight-wheel baggage cars, 1 four-wheel baggage car, and 86 freight cars.

**BALANCE SHEET.**

Capital stock.....	\$1,157,805.00
Funded debt.....	340,000.00
Contingent fund.....	262,757.71

..... \$1,760,562.71

Cost of road and equipment..... \$1,613,361.40

Capital stock of Tel. Co. .... 2,000.00

    " Newark and Bloomfield Railroad..... 55,000.00

Wood on hand paid for..... 10,500.00

Cash, and cash items..... 79,701.81

..... \$1,760,562.71

In relation to the extension of the road to the Hudson River at Hoboken, the report says:

An arrangement has been made with E. A. Stevens, Esq., for a full subscription to the additional stock to be issued for that purpose, upon the terms stated to the stockholders at the special meeting held on the 16th of last month. The details for the regulations of the mutual business of the present road, and the extension have nearly all been arranged, and the work will be commenced at an early day. It is only necessary to say that the arrangements made is entirely satisfactory to the Board, and at a great permanent advantage, as they believe, to the Company.

The following gentlemen were elected Directors: William Wright, Joel W. Condit, Beach Vanderpool, Jeremiah T. Garthwaite, Wm. N. Wood, Aaron Robertson, Robert Hamilton, Joseph P. Bradley, Daniel P. Babbitt.

**Progress of Railroads in Florida.**

We copy from the *Floridian* the following resume of the progress of railroads in Florida:

The Internal Improvement act was passed in 1855, at which time the only railroad in operation was between Tallahassee and St. Marks—21 miles. The great lines of road pointed out by that act as proper objects for aid by the Internal Improvement Fund, extended from the water of Escambia Bay in the West, to Jacksonville in the East, and from Fernandina on the Atlantic to Tampa Bay, with an extension to Cedar Key, on the Gulf. Extensions also were authorized from the Main line running through Middle and Western Florida. Companies formed as speedily as circumstances would permit, and proceeded to organize the requisite means. The Florida, the Central, and the Pensacola and Georgia Companies, went vigorously to work. Surveys were made, routes adopted, and the trustees notified of the particular portions of the lines specified each company proposed to construct. The Pensacola and Georgia Company took to itself the road between Alligator and Pensacola—the Central, that portion lying between Alligator and Jacksonville, and the Florida Company undertaking the whole work from Fernandina to Cedar Keys. Look at the result. The Pensacola and Georgia has quite completed the grading of its part from Tallahassee to the Suwannee river, from which point the contractors are rapidly carrying the road-bed to Alligator, the place of junction with the Central Road, and has, in addition, ironed and equipped twenty-five miles with heavy rail; the Central has graded all its line, ironed twenty-five miles, and purchased rail for twelve more; the Florida has finished grading through to Cedar Keys, a distance of 154 miles, and laid the track on one hundred and eleven miles. In addition to this, the St. Marks road has been re-graded and re-ironed with heavy rail. When summed up these labors show about three hundred miles of grading, and one hundred and eighty-two miles of tract ironed and equipped, since the inauguration of the system in 1855! Is not this accomplishing a great deal in a short time? Indeed, we think such strides have been made within an exceedingly brief space, in progression towards placing Florida on a footing with her sister States, as to justify the strongest feelings of exultation on the part of all our people as well as the indulgence of the confident hope that the day is rapidly drawing near when our splendid system of roads will be completed. What a proud day will be to Floridians, when a few hour's pleasant ride will suffice to pass from the Gulf to the Atlantic—when that obstruction and dread to the great stream of travel, the Florida Coast, with its reefs and shoals, its dangers and difficulties, shall no longer exist, and when, by reason of our system of roads, Florida shall become the great thoroughfare for the immense tide of human beings that is ever rolling back and forth with the certainty and regularity of the ocean's swell. Patience and perseverance a while longer on the part of those who are so nobly laboring to carry these works successfully through and accomplish this

result, and the exercise of "a generous confidence" and forbearance by those who are by law in a position to interpose obstacles to their progress, is not only now a high duty, but is all that is required to secure, beyond a peradventure, the greatest good to Florida that is in the power of man to achieve.

#### Journal of Railroad Law.

##### ACTION FOR INJURIES—PLAINTIFF'S NEGLIGENCE.

The case of *Dascomb vs. The Buffalo and State Line Railroad Company*, recently reported, strikingly illustrates the rule of law that a person cannot recover, for injuries sustained through a railroad accident, or other casualty, where his own negligence has contributed to cause the injury.

The facts in that case were briefly these: The accident for which the plaintiff sought to recover, occurred at a crossing on the defendant's road. About four or five o'clock one afternoon the plaintiff, who lived about a quarter of a mile from the crossing, upon a road called the Camp Road, drove down to cross the railroad. He was in a wagon, driving a single horse. His son, about 12 years old, was in the wagon-seat by his side, and a hired man, in the employ of the plaintiff, was sitting on the bottom of the wagon behind them. There was evidence that, at that particular time, when the plaintiff drove across the track, no train was due at that crossing by the company's time-table. The plaintiff did not, nor did his son, look either way to see whether any train was coming. The hired man looked out in one direction, but not in the other. It so happened that a train, behind time, was, at that moment, coming towards the crossing from the other direction. There was a forest and embankment partly concealing the track on that side from the view at the crossing, and the party in the wagon did not see the cars, until just as the wagon drove down upon the track. The locomotive struck the wagon before the plaintiff could get quite across; the horse escaped, but the wagon was struck, the boy killed, and the hired man and the plaintiff injured.

The Court held, that the plaintiff could not recover for the reason, that his own negligence had contributed to cause the injury. The following is an extract from the opinion:

**MARVIN, J.**—Was there not great carelessness and negligence on the part of the plaintiff? It certainly so seems to me. It is not claimed by the plaintiff's counsel, that the plaintiff looked to the right or to the left, up or down the track; or that he particularly consulted his hearing. One of the positions of the counsel is, that the plaintiff was not negligent, as he supposed, and had a right, from the time-tables of the defendant, to suppose that the cars had passed. As there was conflicting evidence as to the time when the train did actually pass, I shall assume, for the benefit of the plaintiff, that the train was behind time; and then, in my opinion, the conduct of the plaintiff was most unfortunately and lamentably negligent. It seems to me, that it should, and must, be regarded as very little short of recklessness, for any one to drive on to the track of a railroad without first looking and listening to ascertain whether a moving locomotive is near. What difference can it make, if a train has just passed, and whether the train is on time? Another train may be approaching. It must be kept in mind that railroad companies own their roads, and have as perfect a right to use them, in a lawful manner, as the

farmer has to cultivate his farm, or the mechanic to use his tools. The law holds railroad companies to a strict accountability for any of their acts of negligence, by which any one who is without fault sustains an injury in his person or property. Assume, in this case, that it was negligence in the defendant to be behind time, and will this, in law, excuse the defendant, from observing care on his part? In my opinion, it will not. Such a rule would be extremely dangerous, and there would be much difficulty in its application. It may be that those who live in the immediate vicinity of railroads, and who frequently cross them, may, when they suppose a train has just passed, be less careful, and this may grow into a habit; or they may consult time-tables, and from them reason that there can be no locomotive near, and act without regard to care; but if they do so, in my opinion, they act at their peril. They will be charged with negligence in case they rush on to the track without looking, or trying, in a proper way, to ascertain the fact whether danger is near. And they will not be permitted to recover damages for any injury which they sustain.

It is well settled in this State, as a principle of the common law, that he whose negligence has contributed, in any essential degree, to the injury he has sustained, cannot maintain an action to recover damages from the other party, whose acts of negligence have also contributed to produce the injury. When negligence is the issue, it must be an unmixed case. This rule is vastly important in every-day life. It is in constant activity in great and small affairs. The rule, properly understood, should, in my opinion, be maintained in its purity. It is generally salutary in its effects; inducing care, caution, and circumspection. The careless and negligent are taught that if they sustain an injury to which their negligence contributed, they must bear the loss; that the law will afford them no redress.

In the present case, the plaintiff, living about a fourth of a mile from the railroad track, owning a farm divided by the track, leaves his house, with a horse and wagon, taking in his son and hired man, and drives along, upon a trot, directly upon the track of the road, without taking the slightest precaution to ascertain the dangerous proximity of the locomotive. This was negligence. And if the rule to which I have referred, is to be maintained, it must be so held. If such negligence is a question of law, then the Court should have taken the cause from the jury. If it is to be regarded as a question of fact, then the verdict is against undisputed evidence, establishing a fact or facts which show, in law, that the plaintiff cannot recover. And it should, for this reason, be set aside. In my opinion, it was a question of law for the judges at the Circuit, and he should have nonsuited the plaintiff.

Negligence is, undoubtedly, often a mixed question of law and fact; and when so, it should be submitted to a jury. When the main fact or facts touching the negligence is sought to be proved by other facts, called circumstantial evidence, the question is always a question for the jury. They are to say whether the facts proved justify, by fair reasoning, the finding of the main fact in issue to be true. They draw the inferences from the circumstantial facts. But when the direct fact in issue is established by undisputed evidence, and

such fact is decisive of the cause, a question of law is raised, and the Court should decide it. The jury have no duty to perform. The fact or facts controlling the rights of the parties being ascertained, it is the duty of the Court to pronounce the law, as much so as upon a special verdict. The issue of negligence is not an exception to the rule.

The plaintiff's counsel makes the point that if the defendant was negligent, in not ringing the bell, or sounding the whistle, the plaintiff may recover, though he was careless and negligent, provided such carelessness was not so gross as to make applicable the maxim—*volenti non fit injuria*. He refers to the 39th section of the General Railroad Act (Laws of 1850, p. 232). The section referred to, requires that a bell shall be rung continually for 80 rods before crossing a traveled road or street, or that a whistle shall be so sounded, under a penalty of \$25, and declares that the corporation shall be liable for all damages which shall be sustained by any person by reason of such neglect. If this section will justify a recovery, in any case, when the plaintiff has been negligent, the question would be whether the injury had been sustained by reason of the neglect of the company to ring the bell, or sound the whistle. Such neglect on the part of the company, must be the sole cause or reason of the damage. This, of course, supposes the plaintiff free from fault. The statute does not excuse his negligence. Cases may arise under peculiar circumstances, when the omission to ring the bell, or sound the whistle, will be the sole cause of the injury. Suppose one desires to cross the track in a very dark night. He pauses at the track, but he can neither see nor hear the train; or, if he hears it, he judges that it is at an entirely safe distance. He knows that the bell is to be rung, or the whistle sounded, a quarter of a mile. The circumstances are favorable for his hearing the sound, but he hears nothing, and proceeds to cross, and is struck. Such case might be a proper case for the application of the statute. Others might be supposed. But in my opinion, the statute has not changed the law excusing the plaintiff for negligence.

#### North Pennsylvania Railroad.

Of the extension of this road to Easton, the *Journal* of that place thus speaks:

The necessity and importance of having a terminus to this road other than either Freemansburg or Bethlehem has become so apparent, that it has been resolved to extend it to Easton, and perhaps up the Delaware, to connect with the Lackawanna road in the neighborhood of Belvidere. There are but two locations possible between Freemansburg and this place. The one would run across the country to the Bushkill, and along the Bushkill to Easton; the other would run from Freemansburg along the Lehigh to Easton. This latter route would be the least expensive to the company, as the land damages would be small, compared with what they would be along the other route. It is said, also, that if the road is located along the Lehigh, it will be necessary to run it from the Lehigh to the Bushkill through Fourth street. This, as might be expected, meets with decided opposition from the property owners of Fourth street, and it is our opinion that it will be impossible to obtain the right of way from the Borough Council.

As the company this time ask no pecuniary assistance from our citizens to make this extension, and as it will be a valuable improvement to the town, we hope that no obstacle of any kind will be thrown in the way so as to embarrass or defeat the movement.

**TREATISE**  
ON THE  
**PRINCIPLES OF CIVIL ENGINEERING**  
AS APPLIED TO THE  
**CONSTRUCTION OF WOODEN BRIDGES.**

By S. S. POST, Civil Engineer,  
And late Chief Engineer of the N. Y. & Erie R. R.

(Continued from p. 391.)

FOUNDATIONS.

§ 113. While the ultimate strength of the superstructure of a bridge may depend upon the stability of a pier, that stability may also be materially dependent upon the solidity of the foundation upon which the pier is erected.

When the base of a pier is made to rest upon a stratum of rock, or of earth of sufficient density and resistance to sustain the work, it is a natural foundation and the best that can be established.

Gravelly and sandy soils are incompressible, and are capable of supporting the base of any work if the precaution be taken to secure those soils from displacement. Clay and all other earthy soils are more or less compressible and present difficulties either for confining and consolidating them, or for obtaining a sufficient surface of pressure without resorting to an undue extension of the base of the work.

When a natural foundation can be obtained only at a great depth of excavation and consequently at great expense, its want is usually supplied by piles, timbers, crib-work, heaps of loose stones or some other kind of artificial fabric.

Among the most efficient of artificial foundations, and the one most common is that which consists of piles driven into the soil, their tops cut off so as to coincide with a level plane, and all connected together by timbers, forming a platform upon which the base of the pier may rest.

Piles and timbers employed in foundations will, generally, after the completion of the work, be covered to such depth by earth or water, as not to be liable to decay. Sometimes, however, piles have a part of their length above the surface of the ground or water, and are capped, braced and tied together in various ways to serve as piers.

It often happens, where a bridge is to be built, that timber is plenty, while stones and bricks cannot, at the time, be obtained.

In such cases the proper foundations for masonry should be prepared. They may then be surrounded by piles or by temporary piers of framed timber, so arranged as to admit of permanent piers being constructed within them, after the road shall have been opened for traffic and before the piles or timbers decay.

The number and dimensions of piles for a foundation depend upon the area of the base of the pier, the weight to be supported, and the depth they can be made to penetrate the soil.

Experience has shown that little or no advantage is derived in placing piles nearer than  $2\frac{1}{2}$  or 3 feet from centre to centre, and that they can be driven with the best advantage when a certain relation exists between their lengths and mean diameters. A cylindrical pile, 12 feet long, should have a diameter of about 10 inches. If the lengths of piles be taken in proportion to the cubes of their diameters, they will have nearly the proportion which nature gives them, for

10 <sup>3</sup>	:	11 <sup>3</sup>	:	12	:	16	feet long.
:	12 <sup>3</sup>	:	:	20 $\frac{1}{4}$	"	"	
:	13 <sup>3</sup>	:	:	26	"	"	
:	14 <sup>3</sup>	:	:	33	"	"	
:	15 <sup>3</sup>	:	:	40 $\frac{1}{4}$	"	"	
:	16 <sup>3</sup>	:	:	49	"	"	

Piles are driven by means of a machine called a *pile engine*. The effect is produced by the successive percussions of a heavy body, variously called, the *hammer*, *monkey* or *ram*—usually made of cast iron—which is raised by animal or steam power, and allowed to fall upon the top of the pile.

Each pile should have its head or top cut square with its axis, and hooped with iron to prevent splitting. The foot should be pointed, and when the ground is hard the point should be shod with iron. No bark or knots should be left upon the pile and every cause of friction should, as far as possible, be diminished.

In driving, when a pile has reached the hard bottom it will descend no farther, and the interruption is absolute. But the friction of the ground against the pile may overcome the effect of the ram, in which case the interruption is only apparent and the pile is liable to settle under a continued heavy load.

The extent of an interruption, or the resistance which the ground opposes to the pile, is generally estimated by the quantity of percussion it is supposed to receive; since no force short of the momentum of the ram will produce a greater penetration of the pile, and an excess of momentum only, will be effective.

The exact quantity of percussion with which a ram strikes a pile seems never to have been determined in such a manner as to serve as a reliable basis for estimates of the resistance piles will afford for sustaining a load placed upon them.

The *momentum* of a body is defined as being its quantity of motion, that is it is the product of its mass into its velocity; consequently if one body contain twice as much matter as another, and both move with the same velocity, the quantity of motion, or the quantity of matter in motion, will be twice as great in one case as in the other.

Force has been defined (§ 1) as an agency which tends to cause or destroy motion. This is a *force of pressure*, and exists while motion does not actually take place.

When the tendency to motion takes effect so that *motion results*, the force becomes a *force of motion*.

The laws which govern the operations of the forces of motion, and those which govern forces of pressure, are as different as their phenomena and attendant circumstances. The one is an active force, the other a dead one; the one is not weight, the other has no momentum. Nevertheless, certain *relations* exist between them, and the phenomena of either may in a degree, be deduced from those of the other.

Besides the difficulty of determining the quantity of percussion, there exists a further difficulty in ascertaining how much of that percussion may be estimated as effective upon the pile, and how much lost or gained on account of the partial elasticity of the ram and the pile.

When one non-elastic body in motion strikes upon another at rest, no recoil or rebound takes place, but after the stroke they move together

with equal velocities and the sum of their moments or forces, remains the same after as before the stroke. As much motion as the striking body communicates so much it loses.

If the ram falls upon a pile free to move it will transfer to the pile a portion of its force, and whatever force the pile may acquire from the collision the same will be lost to the ram, and the total moving force of the ram and the pile will be exactly equal to the moving force of the ram before impact.

If the ram and the pile were perfectly non-elastic, they would, after impact, move on together, so that both would have the same motion, and the product of the weight and velocity of both would be equal to the product of the weight and velocity of the ram before impact. Thus, if the weight of the ram be taken at 2,000 lbs., and the pile at 1,000 lbs. both moving freely, but without acceleration by gravity, after impact, their united velocity will be two-thirds of that previously acquired by the ram alone. The product of the weight and velocity of the ram after impact will be but two-thirds of that product before impact, while the product of the weight and velocity of the pile after impact will be equal to one-third the product of the weight and velocity of the ram before impact.

Elastic bodies are those which have a certain spring by which their parts, upon being pressed inward by percussion, return to their former state, throwing off a striking body with some degree of force. When the elasticity is perfect the body restores itself with a force equal to that with which it is compressed.

When one elastic body in motion strikes upon another at rest, the one loses and the other gains twice as much momentum as if the bodies had been void of elasticity.

Consequently, if the body in motion be twice as great as the body at rest, the larger body, after impact, will have lost two-thirds of its velocity, and the smaller body will have acquired a velocity four times as great as that of the larger body.

If the ram and the pile were perfectly elastic bodies, and if the velocity of the ram at the impact were 30 feet per second, taking the weights as before, the velocity of the ram after impact will be at the rate of 10 feet per second, and that of the pile 40 feet per second. If perfectly non-elastic, the velocity of the ram would be 20 feet, and that of the pile also 20 feet per second. In both cases the *sum of the products of the weight into the velocity of both after impact will be equal to the product of the weight and velocity of the ram before impact*.

In one case the momenta of the pile and the ram act together to sink the pile with a force that may be represented by

$$(2,000 + 1,000) \times 20 = 60,000,$$

and in the other case the momentum of the pile, equal to  $1,000 \times 40 = 40,000$  only, acts to produce penetration into the ground.

Reversing the weights, by making the ram 1,000 lbs. and the pile 2,000 lbs., and putting the velocity of the ram at the instant of impact, 30 feet per second, if non-elastic the velocity of both after impact will be 10 feet per second, or if perfectly elastic, the pile will receive a velocity of 20 feet per second, while the ram will rebound with a velocity of 10 feet per second. For in the case



process of making bar iron requires two furnaces—the first to make pig metal, and the other to transform it from pig or crystallized iron, to bar or fibrous iron. The St. Louis furnace requires but one.

After stating at length the whole principle of the discovery, the writer says that the whole improvement consists in not only making pig metal with the waste heat of the furnace, but avoiding that anomaly in the manufacture of pig iron of carbonizing with charcoal, and oxydizing with an air blast, at the same time causing waste of material, and large amounts of fuel to overcome it. In hot blast furnaces part of this waste is overcome, as part of the oxygen is consumed before entering the blast furnace.

The time given it (48 hours) seems to have the effect to evaporate all the sulphur (which has ever been the bug-bear of all attempts heretofore to make good iron with sulphurous coal, for which iron has a great affinity, *without waste of material*, as the product of 51 per cent., is nearly as much as pig metal can be produced out of the same ore, (55 at the mountain works.) An examination of the muck bars shows that it is all fibrous, not a crystal in it, which are abundant in all cold short irons, and is attributed to the sulphur in the coal with which it is worked.

In reference to the Renton furnace, the failure of which, after so many sanguine predictions as to its success, had induced many to predict that Criswell's would share the same fate. Mr. Miltenberger says that at the very least, the latter is an improvement upon it, and that its success being a demonstrated fact, all other failures were but stepping-stones to the success of Criswell's furnace. He concludes by predicting that in a very few years bar iron will be shipped from Missouri to Pittsburgh, and all along the Ohio river, made from Missouri ore direct into bar, and that this invention is to open up a future to the State that the wildest dreams have never reached. Detroit business men will, of course, not be long in availing themselves of the advantages which this discovery offers, and to apply it to the manufacture of our own Lake Superior ore into bar iron.

#### Houston and Brazoria Railroad.

This road is to run in a south-western direction from Houston, Texas, to Columbia, in Brazos Co., on the east bank of the Brazos river. The road is completed and in working order from Houston, seven miles south, to the intersection with the railroad from Buffalo Bayou west to Richmond. The rest of the distance to Columbia, forty-three miles, has been graded and ready for the iron for some time, this work being done by the planters along the route.

Last week a vessel arrived at Galveston, from Liverpool, with four hundred and fifty tons of iron for this graded section of the Houston and Brazoria Railroad. Two other vessels, with some sixteen hundred tons additional iron, and other material for the section, are expected daily at Galveston. This will be all the iron required to complete the work to Columbia by September next.

From Columbia, the road is to run nearly directly west to the Colorado river, to the town of Wharton, on that stream—a distance of thirty miles. This section is being pushed rapidly ahead.—*New Orleans Picayune*, June 3.

#### Chicago, Iowa and Nebraska Railroad.

This road was opened on the 15th June to Cedar Rapids, Iowa, making a continuous line of railroad from Chicago to that point via Clinton, Iowa. From Cedar Rapids there is now a river navigation of 60 miles, on the Cedar river, on the direct line to Fort des Moines, Council Bluffs and Sioux City. This new route has been pushed forward so far towards its completion through the energy and perseverance of its efficient Superintendent and Engineer, Milo Smith, Esq., of Clinton, Iowa, under whose personal direction the road has been so vigorously and successfully managed. It is stated to be the nearest route to Council Bluffs, and we are told the tide of travel is now rapidly setting in this direction.

#### Hannibal and St. Joseph Railroad Lands.

Gov. Stewart has confirmed to the Hannibal and St. Joseph Railroad Company the lands on one hundred and forty miles of this road. All that portion of lands lying on the eastern sixty miles and on the western eighty miles of the Hannibal and St. Joseph Railroad is now in the hands of the company, and is in market, and offered for sale on the most liberal terms. These lands lie in Marion, Lewis, Buchanan, DeKalt, Pike, Knox, Andrew, Davies, Livingston, Carroll, Ralls, Monroe, Clinton, and Caldwell counties, and compose the "garden spot" of Northern Missouri. A very long credit will be allowed upon these lands, so as to bring them within the reach of all. This will result in great benefit to this portion of the State. The retaining of so large an extent of rich lands in the hands of a company, and without the reach of actual settlers, has been of great detriment to the State, and particularly to the Northwest. The offering of the above, hundreds of thousands of acres may, therefore, be regarded as a matter of great benefit to us.—*St. Joseph Gazette*, 16th.

#### Junction and Breakwater Railroad.

Four of the directors of the Junction and Breakwater Railroad have advanced the company the sum of \$37,000, on their own individual responsibility—the sum in addition to the available means of this company necessary to put the road in running order from the junction to the terminus of the grading in Sussex County. The iron has been purchased from the Mount Savage (Md.) Iron Works for the above amount, at the lowest cash prices. Messrs. H. B. Fiddeman and Daniel Currey, two of the directors, have contracted to pay \$10,000 cash on the delivery of two hundred tons of the iron, \$7,000 in six months, \$13,000 in twelve months, and \$7,000 in eighteen months, with interest added to each payment. Messrs. P. F. Caussey and Curtis S. Watson, two other directors, have given the first two their obligations that each of the four shall furnish an equal amount to the funds necessary to meet the payments as they fall due.—*Peninsula (Del.) News*.

#### Dubuque and Pacific Railroad.

At a meeting of the stockholders of this company on the 6th, the following named gentlemen were elected new Directors for the term of two years: J. Edgar Thomson, President of the Pennsylvania Central Railroad; John Lord, New York City; John Hodgdon, Dubuque; C. H. Booth, Dubuque; Leo Canfield, Falls Village, Ct.; J. P. Farley, S. Hempstead, Dubuque.

The following named Directors held over by virtue of a previous election, their terms not having expired: O. H. P. Rozelle, Independence; Wm. G. Stewart, F. S. Winslow, R. Bonson, J. H. Emerson, Dubuque; Wm. Ward, Boston.

The Board of Directors of the Dubuque and Pacific Railroad have elected the following officers for the ensuing year:

J. Edgar Thomson, of Philadelphia, President; J. P. Farley, of Dubuque, Vice President; C. H. Booth, do., Treasurer; James M. McKinlay, do., Secretary.

#### Reading and Columbia Railroad.

The friends of this project held a meeting at Ephrata on the 31st of May, and passed a series of resolutions. The *Reading Gazette* says: "There is a good prospect of the early construction of this railroad. It is only 36 miles, and three routes have been proposed, either of which would not be more expensive to make than the East Pennsylvania Railroad. One route starts from a point near Reading, by way of Yocom's forge to the Red Lion tavern, thence along Stony run to Reamstown, thence along the west side of the Ephrata ridge to the Cocalico, near Forney's tavern, 4 miles southwest of Ephrata, and thence following the survey made by Mr. Wilson a few years since, to Dillerville, near Lancaster, and to Columbia. Another route runs from the Black Horse and Sinking Spring, through the valley to the same point on Cocalico creek, either east or west of New Ephrata."

#### Cincinnati Stock Sales.

By KIRK & CHREVER.

For the week ending June 20, 1859.

BONDS. Per cent.

Little Miami, 1st Mort.	68	83	andint.
Covington and Lexington, 2d Mortgage	68	50	
Cinc. Ham. and Dayton, 2d Mortgage	78	85	
Indianap. & Cincinnati, do.	78	85	

STOCKS.

Cincinnati, Hamilton & Dayton	62 1/2	
Columbus and Xenia	83	
Indianapolis & Cincinnati	53	
Little Miami	84	
Ohio and Mississippi	3	

#### Railroad Earnings.

The following are the receipts of the Memphis and Charleston Railroad for May, 1859:

Amount of passenger receipts	\$57,905 14
" freight	25,715 52
" mail service	4,597 91
" express, etc.	1,187 92
Total receipts	\$89,356 49
" expenses	48,699 83

Total amount of net earnings \$40,656 66

The May earnings of the Toledo and Western (Wabash Valley) were:

Passengers	\$19,794 90
Freight	36,959 84
Miscellaneous	3,316 66

Total \$60,071 39

The following is a statement of the earnings of the New York Central Railroad, for the month of May, 1859, compared with its earnings for the corresponding month of the previous year:

1859	\$412,665 83
1858	510,197 42

Decrease \$97,531 59

The following statement shows the business of the Philadelphia and Reading Railroad Company, for the month of May, 1859, compared with the corresponding month of last year:

1859.	1858.	
Received from coal	\$148,707 06	\$165,678 84
Do. merchandise	43,333 06	26,551 50
Do. travel, etc.	33,423 53	24,553 27

Total	\$225,463 65	\$216,783 61
Transportation, road-way, dumpage, re-newal Fund, and all charges	113,657 60	114,051 81

Net profit for the month	111,806 05	\$102,731 80
Do. for previous 5 mos.	399,059 73	329,552 87

Total net profit for 6 months	\$510,865 78	\$432,284 67
-------------------------------	--------------	--------------

The traffic of the Great Western Railway of Canada for the week ending June 10, 1859, was as follows:

Passengers	\$22,324 41
Freight and live stock	7,516 61
Mails and sundries	1,727 81

Total	\$31,568 83
Corresponding week of last year	32,778 13

Decrease \$1,209 30

The receipts of the Grand Trunk Railway of Canada for the week ending June 4, were \$40,386 61.

Week ending May 29, 1858 38,732 36

Increase \$1,654 25

Total traffic from July 1st \$2,118,720 51

Same period last year 2,208,208 49

Decrease \$89,487 98

The annexed are the comparative earnings of the Erie road, for May:	
May, 1858.....	\$469,573
May, 1859.....	349,953
Decrease.....	\$119,629
The earnings of the Catawissa Railroad Company, for May, 1859, were.....	\$26,516 21
Do. May, 1858.....	22,707 70
Increase.....	\$3,808 51
Net receipts for nine months ending	
May 31st.....	\$214,147 74
Same time last year.....	171,083 56
Increase (25 per cent.).....	\$43,064 18

## American Railroad Journal.

Saturday, June 25, 1859.

### What is to be Done to Make our Railroads Profitable?

The Erie Canal is the direct competitor of the New York Central Railroad in the transportation of freight. As the Central is the competitor of the other three great lines, the Canal must, consequently, stand in similar relations to them. This fact was recognized by the recent compact between the four companies. They are compelled to carry low priced freights at reduced rates to take the business from this great water line.

We do not refer to this by way of discouragement, but for the purpose of pointing out to the railroads their true condition, and consequent duties. There is no doubt that charges for the transportation of property must rule low for some time to come, and permanently lower than they have been for five years past. During this period, the capacity of the Canal has been vastly increased, followed by a corresponding reduction in the cost of transportation.

The railroads must meet this improved condition of the Canal, by a reduction of current expenses. The Central certainly save \$500,000 annually, in fuel, over the cost of this article for 1856 and 1857. Coal can be had, per ton, as cheaply as wood, per cord. A ton of coal is equivalent to two cords. The annual interest on the *bonus* bonds now amount to only about \$500,000 annually. An amount nearly equal to this immense sum should and can be saved in one item of current expenditure. The door is open to the Erie for a very large saving by the use of coal. Its line skirts the coalfields of Pennsylvania for nearly its entire length. There is no good reason why coal is not used upon this road to the same extent that it is upon the Baltimore and Ohio. All that is wanting to this end is the requisite skill and resolute determination that coal *shall* be used. We are aware that engine drivers and firemen are strongly opposed to the introduction of this kind of fuel, and unless they are sharply looked after, they will take good care to have all experiments turn out failures.

Coal is obtainable at low cost by every railroad in the United States to which wood costs high. That it must come into general use there can be no doubt. By its use, the cost of fuel can be reduced to six and eight, and sometimes to three or four per cent. per mile run. In England, where coke is commonly used, the cost of fuel per mile is only about six cents. It costs many of our best roads

in this country, all the way, from twenty to thirty cents per mile for wood; or one-quarter of their entire current expenditure.

There is undoubtedly in all our roads a large margin for profit in the reduction of current expenditures. This is a subject that deserves the more attention from the fact that low rates must henceforward rule for portions of the year, at least, on many of our most important lines. No road can be successful in the long run that is not managed with economy. While with it, there is hardly a road among us, having tolerably fair receipts, that may not be made productive on a reasonable cost.

### Why the Net Income of our roads is not in ratio to the Gross Receipts.

It would seem reasonable to suppose that the expenses of operating a railroad ought not to increase in direct ratio to the increase of its gross receipts—that where the earnings of a railroad go from \$500,000 to \$1,000,000, the current expenses ought not to go, for instance, from \$250,000 to \$500,000, as the enlarged receipts may be attended apparently, with only a slightly increased amount of service. So, too, it would seem reasonable that the ratio of profits of various roads should be in direct ratio to the amount of their gross receipts; that if a road earning \$4,000 per mile can save 40 per cent. of this amount, a road earning \$8,000 per mile, should certainly be able to show a net profit of 50 per cent.

While such are inferences that cannot be gainsaid, the results usually obtained, are very wide of them. In fact they seem to contradict them. Take for instance two New England roads—the Boston and Lowell, and the Portland, Saco and Portsmouth. The former earns say \$15,000 per mile; the latter only about \$4,250. The total earnings of the Boston and Lowell Railroad since it went into operation have been \$7,778,888; operating expenses \$4,633,043, or 60 per cent. of the earnings. The total earnings of the Portland, Saco and Portsmouth Road (not including the year just closed), have been \$2,891,000; operating expenses \$1,270,000, or 43 per cent. of the receipts. There is no apparent reason why there should be such a wide difference. The Boston Lowell Road has a better line, and has uniformly charged higher rates of transportation. We can refer the difference to no other cause, than to the difference in the capability with which the two roads have been managed.

The instances cited, are not extreme or uncommon ones. They are so common that no ratio whatever is to be looked for between the gross and net earnings of a railroad. Why there is none, is due to the fact that able, or economical management is rather a matter of chance, or luck, than anything to be calculated upon with a reasonable degree of certainty. Under our present system very little stimulus, or motive, to good conduct is held out to the employees on a road. These are not regarded as responsible for *want* of success. They hold their places by equally safe tenure, whether the road be profitable or not. Their compensation bears no relation to the *value* of their services. Whether valuable or not becomes a matter of indifference to them. The result of a system so faulty, is seen in the great number of our roads having large receipts, but which return nothing to their owners.

The remedy for such a state of things we have already described. Our roads must be so managed that any person employed on them shall be compensated in proportion to the *value* of his services. On such a system extraordinary qualities would soon place to net earnings every penny that could be made out of them.

### Rock Island Railroad.

It is reported, we do not know with what truth, that the bridge over the Mississippi at Rock Island, partly owned by this company, has received an injury so serious as to prevent its present use. This fact is made the occasion of a feeble comment on the policy of the company by one of our city papers, and of a kind of inferential defense by another.

This matter of the bridge accident we regard as of small moment. Direct injuries or losses are always trifling, compared with those resulting from design or incompetency. *Ten thousand* dollars may be sufficient to repair the bridge. A hundred times that sum would not repair the loss resulting from the Bureau Valley lease, which the directors of the Rock Island saddled upon their company, a portion of them being contractors for building the leased road. Have directors of one road the right to contract for the construction of another, taking a portion of their pay in stock and bonds, and then cause a lease of the same to be taken by the company of which they are directors, at three or four times its worth, as a means of making their securities valuable, and three or four hundred per cent. on their investment. Supposing the thing to be legal, can a greater offence against property, or a greater piece of rascality be committed? Directors of railroads should be the custodians of the property they have in charge; not *plunderers* of it. There would be less cause of complaint, did the directors of the Rock Island road ever tell us anything about the cost, earnings, etc., etc., of their leased line. But they are too cunning to furnish the public with the figures which would convict them of the commission of a gross outrage, well knowing that resentment and clamor dies out unless fed upon something that is tangible.

So, too, with the Rock Island Bridge. This structure has cost an immense sum. Who can tell how much, the revenues it yields, or who lose or make by it? We suppose it has cost a half a million of dollars. Here is a sum large enough to be deserving of a statement of it to appear somewhere. If half of it belongs to the Rock Island Company, should not some account of it appear in the reports of that company? It may be, that while half nominally belongs to another company, the Mississippi and Missouri, the money has been mainly furnished by the Rock Island, as the most able of the two companies. The same parties who control the latter, are the contractors, or are owners of securities of, the Mississippi and Missouri Railroad. It would be natural that they should desire to crowd off such liabilities, as they may be able, upon the Rock Island Company. Their success in the Bureau Valley lease is a precedent too valuable not to be attempted a second time. At any rate, after this achievement, they are proper parties to be looked after sharply, especially when they take especial pains to cover their trail, and as directors, keep from the public information most important to be communicated. Will the next report of the company, soon to be made, supply it?

**Interest and Dividends.**

Coupons for interest maturing July 1, 1859, on the Chicago, Burlington and Quincy Railroad Company, the Chicago and Aurora Railroad Company, will be paid at maturity at the Bank of Commerce in New York. The interest due July 1st on the freeland bonds of the Florida, Atlantic and Gulf Central Railroad will be paid on and after that day by Joseph Grice, 96 Wall street.

The coupons due on the bonds of the New York and New Haven Railroad will be paid at the depot, corner of Twenty-seventh street, or at the Bank of the Republic.

The coupons of the Sacramento Valley Railroad Company, due July 1, 1859, on \$400,000 first mortgage bonds, will be paid on and after that date, at the office of Schuchardt & Gebhard.

The coupons on the bonds of the Alabama and Florida Railroad Company of Florida, due 1st July next, will be paid on that day at the Bank of the State of New York.

The semi-annual interest due July 1st, on the Missouri Railroad bonds, will be paid on and after that date at the Bank of Commerce.

The interest accruing on the debt of the State of Illinois, July 6th, will be paid by Mr. James Miller, Treasurer of Illinois, at the office of Howe, Hamlen & Co., No. 95 Wall street, on and after the 5th prox. All interest not collected between the 5th day of August next will be paid at the office in Springfield.

The Worcester and Nashua Railroad has declared a semi-annual dividend of \$4 per share, payable July 11th.

The Panama Railroad Company, a semi-annual dividend of 6 per cent., payable July 1.

The Illinois Central Railroad are now paying their scrip, due July 1st—less the interest to that date.

The Boston and Worcester Railroad has declared a semi-annual dividend of 3 per cent., payable July 1st.

The Broadway Bank has declared a semi-annual dividend of 5 per cent., payable on the 1st prox. The Chemical Bank, a quarterly dividend of 6 per cent. The Bank of New York, a semi-annual dividend of 8 per cent., payable July 1st. The Seventh Ward Bank, 5 per cent. The Mechanics' Bank, a semi-annual dividend of 4 per cent., payable July 1st. The Bank of America, a semi-annual dividend of 3½ per cent., payable July 1st. The Tradesmen's Bank, a semi-annual dividend of 4 per cent., payable July 1st. The Atlantic Bank of Brooklyn, a semi-annual dividend of 5 per cent., payable July 1st.

The usual semi-annual interest dividend of 3½ per cent. has been declared by the Great Western Marine Insurance Company. The Goodhue Insurance Company has declared a dividend of 6 per cent. The Fulton Fire Insurance Company, an extra dividend of two and a-half dollars per share. The Park Fire Insurance Company, a semi-annual dividend of 10 per cent., payable July 1st. The Brooklyn Fire Insurance, a semi-annual dividend of 10 per cent., payable 1st July. The Mercantile Mutual Insurance Company has declared a semi-annual interest dividend of 3½ per cent. on the capital stock. The Metropolitan Fire Insurance Company, an extra dividend of 3 per cent., payable July 1st. The Mechanics' Fire Insurance Company, Brooklyn, a semi-annual dividend of 10 per cent., payable July 1st.

**Railroads of New Hampshire.**  
Statement showing the cost, earnings, etc., etc., of the Railroads of New Hampshire, for 1858-9.

Name of Road.	Cost.	Gross receipts.	Current expenses.	Net earnings.	Rec'd from pass'gers.	Rec'd from freight.	Do. Miscellaneous.
Ashuelot.....	\$395,018	\$30,000	\$30,000	\$0			
Boston, Concord and Montreal.....	3,015,880	227,720	\$141,382	86,338	\$64,238	\$151,314	
Concord and Portsmouth.....	250,000	58,488	89,125	19,362	25,219	29,628	8,646
Cheshire.....	3,082,557	297,832	188,815	108,527	97,237	185,806	17,824
Cocheco.....	866,659	44,709	27,646	17,063	17,731	23,199	4,278
Concord and Manchester and S. Lawrence.....	2,663,463	459,659	244,572	213,943	151,083	257,975	29,314
Contoocook River.....	200,000	16,603	15,074	15,528	4,801	10,440	1,362
Great Falls and Conway.....	403,564	27,826	13,990	13,836	9,618	17,212	1,362
Merrimac and Connecticut Rivers.....	1,282,880	59,774	38,618	21,156	19,523	83,898	6,302
Northern.....	3,580,246	353,100	176,110	176,990	83,975	256,416	12,809
Sullivan.....	1,250,000	68,874	43,976	19,897	27,146	82,761	8,967
Wilton.....	227,497	13,620	18,620	6,159	5,185	9,280	1,162
White Mountains.....	200,000	15,628	10,449				
Totals.....	\$17,017,464	1,768,333	\$939,657	\$828,676	\$499,147	\$1,000,924	\$268,324

**Portland, Saco and Portsmouth Railroad.**

The earnings of this road for the past year were:

From passengers.....	\$155,953
" freight.....	44,317
" mails, etc.....	11,727

Total..... \$211,997

The current expenses for the year were \$100,853, to which was added \$10,000 for renewals, making the total net income \$101,144. Two dividends of 3 per cent. each, amounting to \$90,000, were paid. The surplus for the year was \$11,144, which, added to this fund, made the total amount in hand May 31st, \$40,844.

The capital account is represented entirely by stock, of which \$1,500,000 has been issued.

The road is represented to be in excellent condition, which we may well credit from the fact that it has never failed to make and earn yearly dividends of 6 per cent. It could not have regu-

larly done this unless it had been well managed and maintained. The earnings of the road have never exceeded \$5,000 per mile. It has a vigorous steamboat competition, yet by good management it has been enabled to make a fair return upon its cost, which many of our roads have failed to do upon receipts relatively twice as great.

**New York and Erie Railroad.**

We understand that steps have already been taken by some of the mortgage bondholders to foreclose their mortgages, for the purpose of obtaining possession of the road. All such measures are to be deprecated and avoided, if possible. In the emergency should not a meeting of the stock and bondholders be called? There is not only no well-defined opinion as to the real value of the road, but there is also a want of adequate basis, or knowledge upon which to form such an opinion. For two years past the ratio of expenses to earnings have been nearly 75 per cent. Is this to be the rule, or an exception? If the rule, then the sooner the fourth mortgage bondholders go into peaceable possession of the road the better. On the other hand, if the road can be operated at a lower rate than 75 per cent. of its earnings, it is important to have the approximate figures, as a means of knowing how large a burden the road can carry. A public meeting of all interested, would have a tendency to draw out the desired information.

**Mississippi and Tennessee Railroad.**

We learn from the Memphis Avalanche that track-laying on the southern section of this road has been commenced, that it will continue until fifteen or twenty miles are laid. The road will certainly be opened for business as far as the Yokena river, a distance of seventy-two miles from Memphis, on or about the 1st day of October, and in all probability, to the Oakland Depot, a distance of eight miles beyond the river, by the 1st of November. The entire road is under contract, to be completed by the 1st day of January, 1861.

The receipts of this road for the eight months ending May 31, 1859, amounted to \$136,053.85.

**Cleveland and Toledo Railroad.**

The earnings of this road for the year ending April 30, were—

From Passengers.....	\$485,337 45
" Freight, mails, &c.....	312,818 20

Total..... \$798,155 65

Running expenses for the same period. 383,699 78

Net earnings..... \$414,455 92

From this is to be deducted:

Interest on funded debt.....	\$269,500 00
Rent of C. C. and Cincinnati road.....	66,000 00
Sinking fund.....	38,000 00
Interest on floating debt, &c.....	35,000 00

Total..... \$108,500 00

Net earnings..... 5,955 00

The earnings are \$132,096 81 less than for the preceding year. The report says:

The financial position of the company has not materially changed since the last annual statement. The interest on the bonded debt has been paid, and the obligations of the company have been met as they became due. The total amount of the outstanding notes of the company June 1, 1859, is \$358,605 64. The outstanding bonds of the company amount to \$8,842,720. A gradual exchange of the outstanding bonds of the company for the sinking fund mortgage bonds has

been going on during the year, so that at the present time the outstanding bonded debt includes \$640,000 of said bonds.

#### Alexandria, Loudoun and Hampshire Road.

We learn from the *Washington States* that the rails have been laid upon this road as far as Arlington Mills. The road passes some three miles to the south of the District of Columbia, and it is proposed to connect with the District cities by a branch road crossing the Potomac Aqueduct at Georgetown. Surveys have been made upon the whole line, which passes through some of the most populous and wealthy counties of Virginia, and terminates in the centre of the vast mineral region covered by the counties of Hampshire and Hardy. The grading is already completed as far as Leesburg, in Loudoun County, to which point the road will be opened in the course of the summer. When completed, it will be one of the most valuable feeders ever opened to the business of the cities of Washington, Georgetown and Alexandria.

#### Michigan Central Railroad.

The result of the operations of this road for the current year are stated to be about as follows:

The annexed are said to be figures of the forthcoming Michigan Central Railroad report:

Gross receipts for the year end'g June 1. \$1,889,000  
Expenses. .... 1,072,737

Interest for year, &c	.....	\$806,268
Net profits	.....	\$71,268
Credit of income account, 1858.	.....	87,419
Aggregate credit	.....	\$168,687

#### Sunbury and Erie Railroad.

We learn from the *Philadelphia News* that the last rail necessary to complete the track of the Sunbury and Erie Railroad to Lockhaven has been laid. The first passenger car between Williamsport and the Bald Eagle Bridge, which is a short distance below Lockhaven, was run over the road to that point on the 15th, carrying, among other gentlemen, the Governor of the State, and the President and Chief Engineer of the Company. The line is now complete from Sunbury to Lockhaven, and arrangements are nearly completed for the regular running of the trains between these points. Above Lockhaven, and to the head waters of the Sinnemahoning, the grading of the road is nearly all completed, and a very short time will be sufficient to have the rail down to this point. The present extension, in connection with some lateral roads already constructed, reaches the rich coal fields of the West branch, and a very large trade from this source is now ready to go on the road. The entire work of construction on the middle and western divisions will be vigorously pressed during the present season, and it is confidently expected that the rails will be laid to the harbor of Erie by July, 1860.

#### The Clinton Bridge.

Respecting the Clinton bridge, which is to connect the Galena and Chicago with Iowa Railroad the *Chicago Democrat* of the 17th, says:

The bridge at this place is progressing rapidly under the energetic superintendence of the contractors, Messrs. Cross & Wicks, assisted by D. Harper, Esq., of this city. The masonry and pile work is about three-quarters done, and the superstructure half done. The bridge will cost, in all, about \$100,000, which is comparatively a small sum. It is being constructed by a company of Boston capitalists.

#### Louisville and Frankfort Railroad.

The completion of this road to Frankfort was celebrated on Saturday morning last by a barbecue.

#### Dayton and Michigan Railroad Company.

The annual meeting of the stockholders of this company was recently held at their office in Dayton. The attendance was unusually large for such an assemblage. The reports of the present Superintendent and Secretary were listened to with great interest, and seemed to give very general satisfaction.—The affairs of the company would seem to be in a prosperous condition. The iron for the remaining seventy miles (Lima to Toledo) is purchased and now being laid in the track.—Great hope is expressed that the road will be completed to Toledo by the first of September next. From the Superintendent's report, we learn that although that portion of the road between Lima and Sidney was not in full operation until the 22d day of September, the gross earnings were—

From passengers	.....	\$69,340	84
" freight	.....	49,825	32
" mails and express	.....	5,393	32

Total earnings	.....	\$124,559	48
The operating expenses amount to	.....	57,779	58

Leaving for net earnings \$66,779 90

The total mileage for engines 144,606 miles, at a cost for repairing, etc., of \$5,862 26, or 4½ cents per mile run. The number of passengers transported was 83,496, at an average fare of eighty-three cents each.

From the above, it will be seen that the operating expenses were about 46½ per cent. of the gross earnings. The election for directors was held at the same time and place, and the old members were unanimously re-elected.—*Cir. Commercial.*

#### Chicago, Detroit and Canada G. T. Junction Railway.

The Detroit *Advertiser* states that the work on this line of road from Detroit to Port Huron is progressing favorably. The first locomotive with iron for the Mount Clemens section, passed over the ten miles already constructed, on Monday.

The station to which this iron was forwarded is called Fraser's station. We understand that arrangements are so far complete that the rails can now be placed at the rate of one mile *per diem*. The contractors are pursuing their work with great diligence and efficiency.

#### The Delaware and Maryland Railroad.

The Somerset (Md.) *Union* predicts that this road will be in actual operation to Salisbury, in that county, by the close of the present year. It is already under contract to the Maryland State line, at a cost of only thirty-six cents for the right of way to Seaford, Del., a distance of 13 miles. The bridge across the Nanticoke, at Seaford, is nearly completed, and in two mouths trains will be enabled to run as far as Laurel. It is expected that in a few days the road will be under contract to Salisbury, on favorable terms.

#### Delaware and Lehigh Water Gap Railroad.

Ground has been broken on this road at a point near Bethlehem, Penn. The road is to connect the North Pennsylvania, and the Delaware, Lackawanna and Western. It is expected that it will be finished in May next.

#### The Ohio County Bonds.

The *Wheeling Intelligencer* says: The County Court of Ohio county, Va., has decided not to make a levy for the payment of the warrants and coupons due, and becoming due, during the coming year, for the interest on the bonds of Ohio county issued to the Hempfield Railroad Company. The Court made an order appointing a commission to ascertain from the holders of the bonds for what sum they will surrender the same for cash, on or before the first day of May next.

#### Provincial Canals.

*Reduction of Tolls.*—By an order in Council, to take effect on the 15th inst., considerable reductions have been made on the tolls upon the Welland and St. Lawrence Canals. On the Welland Canal articles in the third class have been reduced from 20 cents to 15 cents per ton; those in the fourth class from 25 cents to 20 cents; those in the fifth class from 30 cents to 25 cents; and those of the sixth class from \$1 to 50 cents; while boards, planks, scantling, and other sawed lumber, which lately paid 30 cents per 1,000 superficial feet, are now charged 20 cents. Barrel staves and headings 30 cents, instead of 40 per M; pipe staves \$1.50, instead of \$2, and West Indian staves 60 cents, in lieu of 75 cents.

The following articles, which hitherto paid \$1, as coming under the 6th class, have been transferred to the 5th class, paying 25 cents per ton only, viz: rosin, tar, pitch, whiting, chalk, ships' stores, crockery, iron safes, soda ash, white lead, paint, turpentine, dye woods and dye stuffs, leather, manufactured tobacco, mahogany, and agricultural implements. Ice has been placed in 3d or lowest class, and horses, and all kinds of oil in barrels, have been put in the 4th class.

#### Liabilities of Towns for Subscriptions to Railroads.

The suits involving the liability of several towns of this county upon bonds issued to aid in the construction of the L. O., A. & N. Y. R. R., which had been argued before the General Term of the Supreme Court, have just been decided by that Court in full bench, Judge Strong presiding, and Judges Welles, Smith, and Johnson, associates.

The Court sustains the validity of the bonds, and holds the towns liable to pay them to bona fide holders. The opinion is written by Judge Strong, and it is understood to cover the whole ground of overruling all points of defence, and to be concurred in by the whole bench. This decision sustains the good faith of the towns. They will doubtless cheerfully comply with the judgment of the Court.—*Auburn Advertiser.*

#### Auburn and Allentown Railroad.

Since the announcement of the increase of tolls on the railroad and canal, the business men of Schuylkill county seem determined to secure an outlet to New York direct, if possible. A number of persons met a committee connected with the Auburn and Allentown Railroad in New York last week, and they proposed to push the road through as rapidly as possible, provided the sum of \$150,000 is subscribed in and by those interested in Schuylkill county, for the purchase of iron—said amount to be taken in stock or bonds, if any bonds should be issued. The company prefer building the whole road with stock only, if it can be secured, and issue no bonds. About \$350,000 have already been expended—\$800,000 are ready—and the balance over and above the \$150,000 for the purchase of the iron, will be forthcoming as soon as the \$150,000 is subscribed. No money will be required until the roadway is graded.—*Pottsville Miner's Journal.*

#### Macon and Brunswick Railroad Commenced.

In the early part of last week, Mr. McNeill, with his corps of engineers and assistants, commenced the location of the Macon and Brunswick Railroad. The location has been completed to the point at which the Ocmulgee is to be crossed, and on yesterday the camp was moved to the east bank, and it is expected that the work will be vigorously prosecuted until forty miles is finished, when the contracts for the grading, superstructure, &c., will be let out.—*Macon Telegraph*, 12th inst.

#### Androscoggin Railroad.

This road is completed to Farmington, to which place a passenger train ran on Monday last. By the completion of this road the fertile valley of Sandy river is brought in close connection with our city, which, we have no doubt, will result to the advantage of both places.—*Portland Advertiser.*

**Maysville City Bonds.**

A few days since the Court of Appeals affirmed the decision rendered by Judge Phister, at the April Term of the Mason Circuit Court for 1858, in the case of Graham & Knox agt. Alex. Maddox and others, composing the Board of Councilmen for the city of Maysville.

This was an application upon the part of the plaintiffs, holding certain bonds of the city of Maysville, issued in part payment of its subscription to the capital stock of the Maysville and Lexington Railroad Company, for a mandamus to compel the city council to levy and collect a tax to pay the interest due and in arrears on said bonds; and the case having been elaborately argued on the 29th day of April, 1858, Judge Phister rendered a decision in favor of the plaintiffs. The defendants appealed, and the decision of the Circuit Court is sustained. The Court of Appeals has awarded a mandamus, as asked for by the plaintiffs, and its decision is emphatic on all the points involved.

**Louisville and Nashville Railroad.**

Travelers are now making the trip from this city to Nashville in twenty-seven hours. The trains leave Nashville at three and a half o'clock, P. M., and arrive at Louisville at six o'clock, P. M., next day. By the Louisville route passengers reach New York in less than three days. In November the road will be completed, when those who journey can breakfast in one city and sup in the other. —*Louisville Courier*, 13th.

**Illinois River Railroad.**

The iron for this road is now being received at New York. Thirteen vessels loaded with it have arrived. The iron brought by seven of them had been shipped for Chicago, a portion of which had reached the latter place, and would be forwarded to Pekin at the earliest practicable moment. Track-laying will soon commence. —*Alton (Ill.) Courier*, June 18.

**Competition on the Lakes.**

The Cincinnati *Gazette*, of the 17th, says new difficulties have arisen at the West among the railroad people:

"The steamboat lines on Lake Erie and the Hudson river, not having been included in the compromise, are competing for the passenger travel by selling tickets from Cleveland to New York at reduced rates. To meet this, the Lake Shore Railroad, we understand, reduced its fare \$1. This latter reduction, if persisted in, will, of course, be followed by a corresponding change in the tariff of the Pennsylvania Road."

**Hudson River Railroad.**

On the 13th instant, the following gentlemen were elected as Directors of the Hudson River Road: Samuel Sloan, James Boorman, John David Wolfe, Edward Jones, William Kelly, D. Thomas Vail, Erastus Corning, William H. Hays, Robert P. Getty, Henry A. Smythe, E. M. Gilbert, J. B. Johnston, E. H. Miller. Mr. Samuel Sloan was unanimously re-elected President, and Mr. D. Thomas Vail, Vice-President.

**Amboy and Grand Traverse Road.**

The citizens of Saginaw city have agreed to loan \$60,000 for twenty years to the Amboy, Lansing and Grand Traverse Bay Railroad, and also in behalf of the city to subscribe a like amount. The Directors of the road agreed on their part, in event of prompt payment of \$100,000, to grade the road between that city and Owosso within six months of the time of the ratification of the contract, and finish and equip the same by one year from July 4 next ensuing.

**Cincinnati and Chicago via Logansport.**

The U. S. Circuit Court has appointed Wm. Ball, of Terre Haute, Receiver for the Cincinnati and Chicago Road—Richmond to Logansport—and that gentleman has entered upon the discharge of his duties. The management of the road is not to be interfered with.

**Peoria and Bureau Valley Railroad.**

The annual meeting of the Peoria and Bureau Valley Railroad Company was held in Chicago on the 9th inst., when the old Board of Directors was re-elected, as follows: Henry Farnham, N. B. Judd, of Chicago; Charles W. Durant, F. H. Tows, of New York city; John L. Griswold, John Hamblin, of Peoria.

At a subsequent meeting of the Directors, N. B. Judd was re-elected President, Washington Cockle, of Peoria, Secretary, and C. W. Durant, Treasurer.

**European and North American Railway.**

On Wednesday, June 8th, the European and North American Railway was opened from St. John to Hampton with appropriate ceremonies and rejoicings.

**Southern Railroad.**

Wm. M. Wadley, Esq., late of the New Orleans, Jackson and Great Northern Railroad, has been appointed Superintendent of the Southern Railroad.

**Baltimore City Passenger Cars.**

The track on Broadway for the City Passenger Railway is completed to within a few feet of Baltimore street, and a large force of laborers are engaged in filling in between the tracks with earth and repaving the street. Messrs. POOLE & HUNT have contracted for building the cars, which are to be handsome and tasteful. The contractors intend commencing on Baltimore street to-morrow with an increased force of excavators. They design commencing at the other end in a short period, so as to complete the work by the end of August. —*Balt. American*, June 23d.

**Nashville and North-Western Railroad.**

We learn from advertisements that proposals are invited for the grading, bridging, and masonry, of twenty-three miles of the Nashville and North-Western Railroad out from Nashville, the contracts to be awarded on the 12th of July.

**DR. A. MERRIMAN,  
DENTIST.**  
1 Waverley Place, opposite New York Hotel,  
**NEW YORK.**

**JAMES ANDERSON & CO.,  
IMPORTERS OF AND DEALERS IN  
HARDWARE AND CUTLERY,  
Nos. 23 & 25 Day Street, NEW YORK.**  
SOLE AGENTS FOR

**TROY BELL FOUNDRY  
AND  
PHENIX BLACK LEAD CRUCIBLES.**  
Dealers and consumers are invited to inspect our stock consisting of every article known in the trade, viz., Builders', Machinists' and Founders' Materials. Stubs & Norton's Files, Tools, etc., etc.  
**METALS OF EVERY KIND.**  
Favorable terms to first class buyers.

  
**ROLLING MILL  
FOR SALE.**

**A MERCHANT IRON AND WIRE ROD ROLLING MILL,** situated in the City of Wheeling, Va., with Coal banks in rear of the mill containing an abundance of good bituminous coal.

The cost of the fuel delivered to the furnaces is but two and a-half cents per bushel.

Attached to the mill is a **WIRE FACTORY** and its appendages. Also a **KIRK STEAM HAMMER** for **Forgeing Car Axles**, etc. There is extra shafting and surplus of power for other work if required.

The extraordinary **cheapness** of the **fuel**, and the facilities for obtaining metals, and for shipping, both by water and rail, to all parts, particularly west and south, makes the locality a desirable one for the manufacture of **IRON** in any or all its branches.

For particular address either of the subscribers.

**P. A. BURDEN, Lansingburg, N. Y.**  
**C. DEWEY, Cadiz, Harrison Co., Ohio.**  
**E. M. NORTON, Wheeling, Va.** 320

**PARK'S IMPROVED  
TRACING LINEN,  
DRAWING MATERIALS,  
FOREIGN AND DOMESTIC STATIONERY,  
PRINTING & LITHOGRAPHING.**  
**DEVLIN & HAGAN,  
No. 7 Nassau st., N. Y.**

**To Locomotive Builders.**

WANTED a situation by a Draughtsman well acquainted with the practical construction of Steam Engines, particularly Locomotive Work.  
Address Box 492 Paterson, N. J. 25

**FREIGHT CARS FOR SALE.**

**11 CARS**—Have been run about one year,—viz.—  
11 3 long 8-wheel Box Cars,  
9 " " Platform Cars.

These Cars are made in the best manner, with large axles, brakes, Lighter boxes, etc., and will be sold low for cash.  
**WILLIAMS & PAGE,**  
26ft 44 Water st., Boston.

**FOR SALE.**

**2,250 TONS** English Rail, (afloat), 54 lbs. to the yard, Eric pattern, Bars 24 feet long. Terms, CASH. GEO. T. M. DAVIS, NEW YORK, June 1, 1859. 4223 47 Exchange Place.

**FOR SALE.**

**2 FIRST CLASS LOCOMOTIVES**, warranted to be superior in every respect. Weight 24 tons. Gauge 4 feet 8 1/2 inches. Cylinder 15x22 inches. Outside connection. Boiler 44 inches diameter. 130 Copper Flues, each 10 feet 6 inches long, 2 inches diameter. 800 sq. feet Fire Surface. Tender 1,700 gallons. 5 feet Drivers. Are entirely new, never having been used. For terms apply to

GEO. T. M. DAVIS,  
47 Exchange Place.  
New York, June 22, 1859. 4228

**CAST STEEL,**

Of First Quality and Warranted.

**BAR, TOOL, DRILL, AND DIE STEEL  
LOCOMOTIVE, CAR AND CARRIAGE CAST STEEL.  
CAR SPRING STEEL.**  
Far superior to the ordinary kind.

**FROG PLATES, POINTS.**

Saw, File, Cutlery, Rake, Hoe, Axe and Plough. Steel. Gun Metal. Wire and Machinery Steel. ORDERS FILLED PROMPTLY AND AT LOW PRICES.

**SALTUS & CO.,  
45 Cliff st., New York.**

**RAILROAD IRON.**

**WOOD, MORRELL & CO.,**

HAVING leased the extensive Works of the **CAMBRIA IRON COMPANY**, situated at JOHNSTOWN, Cambria Co., Penna., and purchased all their real estate, are now prepared to execute, at short notice, orders for **RAILS** of any required pattern or weight, on the most liberal terms.

**PHILADELPHIA** (NORTH PENNA. R. R. BUILDING,  
OFFICE, No. 407 Walnut st.)

**THE ROUND OAK IRON WORKS,  
STAFFORDSHIRE, ENGLAND.**

Lord WARD, Proprietor.  
**MANUFACTURE RAILS, BOILER PLATES,  
SHEETS, HOOPS and BARS, of every variety  
of pattern.**

**NORRIS & BROTHER,**  
Agents for the United States,  
12 SOUTH CHARLES STREET,  
BALTIMORE,  
And 17 NASSAU STREET, NEW YORK.

**Railroad Iron.**

THE undersigned have American and Foreign Railroad Iron for sale, deliverable in New York and other markets.

**CASWELL & PERKINS,**  
Brokers, 49 Wall st.

New York, January 1, 1859.

**RAILROAD IRON.**

**500 TONS** American Rails, Eric pattern, 56 lbs. per yard, for sale at Chicago, also about 500 Tons English Rails same size and weight.

**M. K. JESUP & COMPANY,**  
New York, June, 1859. 14 Exchange Place.

**RAILROAD IRON.**

THE undersigned, having been appointed Agents for Messrs. BOLKOW & VAUGHAN, proprietors of the ESTON, MIDDLEBRO', and WITTON PARK IRON WORKS, YORKSHIRE, ENG., are prepared to contract for the sale of RAILROAD IRON of a superior quality and on the most advantageous terms.

MEAD & BELL,  
17 William St., N. Y.

**RAILROAD IRON.**

THE undersigned, Agents for the manufacturers, are prepared to make CONTRACTS FOR RAILS delivered free on board at ports in England, or ex-ship at ports in the United States.

M. K. JESUP & COMPY,  
44 Exchange Place.

New York, 1st June, 1858.

**RAILROAD IRON.**

THE undersigned, Agents for leading Manufacturers in STAFFORDSHIRE and WALES, are prepared to contract for delivery on board ship at LIVERPOOL, or WELSH port.

C. CONGREVE & SON,  
13 Cliff St., N. Y.

**RAILROAD IRON.**

CONTRACTS for RAILS, at a fixed price or on commission, delivered at an English port, or at a port in the United States, will be made by the undersigned.

THEODORE DEHON,  
10 Wall St., near Broadway, N. Y.  
500 tons T Rails on hand, 54 to 57 lbs. per lineal yard.

**RAILROAD IRON.**

THE subscribers, Agents for the Manufacturers, are prepared to contract for the delivery of RAILROAD IRON at any port in the United States or Canada, or at a shipping port in Wales.

WAINWRIGHT & TAPPAN,  
Boston, June, 1858. 29 Central Wharf.

**RAILROAD IRON.**

THE subscriber is prepared to enter into CONTRACTS FOR RAILS delivered at an English port or at a port in the United States.

JAMES TINKER,  
54 Exchange Place,  
NEW YORK.

Erie Rails, 57 to 58 lbs. per yard, on hand in NEW YORK and NEW ORLEANS.

**RAILROAD IRON**

AND COMMON BARS.

THE undersigned, sole Agents to Messrs. GUES & Co., the proprietors of the Dowlais Iron Works, near Cardiff, South Wales, are duly authorized to contract for the sale of their G. L. Railroad Iron, and Common Bars, on most advantageous terms.

R. & J. MAKIN, 70 Broad St.

**RAILROAD IRON.**

THE undersigned, Agents for the Manufacturers, are prepared to contract to deliver, free on board at shipping ports in England, or at ports of discharge in the United States, RAILS OF SUPERIOR QUALITY, and of weight or pattern as may be required.

VOSE, LIVINGSTON & CO.,  
9 South William St.  
NEW YORK, Aug. 1, 1858.

THE RAILROAD IRON MILL COMPANY,  
CLEVELAND, OHIO,  
MANUFACTURERS EXCLUSIVELY OF  
**RAILROAD IRON.**

THIS is a new ROLLING MILL, having been working only eighteen months, and confined to work for roads on this line between Buffalo and Chicago in re-rolling old Rails. The capacity is Forty Tons per day. It is well situated for receiving old Rails, either by Railroad or Lake.

**Orders are now solicited.**

From Roads in other sections of the country; and work will be made with New Iron in the heads, if desired.

Apply to  
ALBERT G. SMITH,  
President of the Incorporation.  
February, 1858.

**RAILROAD IRON.**

The Crescent Manufacturing Company,  
WHEELING, VA.

ARE now prepared to execute, at short notice, orders for Rails of any required pattern and weight, and to re-roll old rails, on the most liberal terms. Address

N. WILKINSON, Secy.,  
WHEELING, VA.

**STEEL, FILES, ETC.**

R. GROVES & SONS,  
SHEFFIELD, ENGLAND,

MANUFACTURERS of warranted Cast Steel, superior quality, for Tools, Machinery, and Engineering purposes. Single and Double Shear, Blister, German Spring and Sheet Steel of every description—also, Cast Steel Files, of high reputation, especially adapted for the use of Machinists, and Saw and Edge Tools of all kinds.

A stock of the above goods constantly on hand.

CORPORATE MARK  
USE  
CHAS. CONGREVE & SON, Agents,  
13 Cliff street, N. Y.

**IRON BOILER FLUES.**

Lap-Welded Boiler Flues, 1½ to 7 inches outside diameter, cut to definite length, 2 to 20 feet as required.

Wrought Iron Welded Tubes, from ½ to 5 inches bore, with Screw and Socket Connections. T's, L's, Stops, Valves, Flanges, &c., &c.

MANUFACTURED AND FOR SALE BY  
MORRIS, TASKER & CO.,

**PASCAL IRON WORKS.**

Established 1821.

Warehouse—209 South Third St.,  
PHILADELPHIA.

STEPHEN MORRIS,  
THOS. T. TASKER, JR.

CHAS. WHEELER, JR.,  
STEPHEN P. M. TASKER.

MORRIS & JONES & CO.,  
IRON MERCHANTS,  
MARKET AND SIXTEENTH STREETS,

**PHILADELPHIA.**

IRON AND STEEL  
IN ALL THEIR VARIETIES.

BOILER PLATE,  
BOILER RIVETS,  
CUT NAILS AND SPIKES,  
CAR AXLES,  
RAILROAD IRON,  
PIG IRON, etc.

Having the selling agency of number of the Rolling Mills Furnaces and Forges in this State, orders for any description of Iron can be executed.

August 16, 1858

ly23

LACKAWANNA  
IRON AND COAL COMPANY,  
SCRANTON, LUZERNE CO., PA.

BY the completion of the Delaware, Lackawanna and Western Railroad, this Company are enabled to obtain the Magnetic Ore from the most celebrated mines in New Jersey, which used in combination with their native ores, produce a quality of iron not surpassed.

These works have been greatly enlarged the past year, and are, therefore, prepared to execute orders promptly for RAILROAD IRON of any pattern and weight, Car Axles, Spikes, and Merchant Iron. They have on hand patterns for Rails of the following weights per lineal yard, viz.:—26, 30, 36, 40, 45, 50, 60, 62, and 75 lbs.

Samples of Rails and Merchant Iron may be seen at the office of the Company, 46 Exchange Place, New York.

Address J. H. SCRANTON, President,

SCRANTON, PA.

or DAVID S. DODGE, Treasurer,

46 Exchange Place,  
40th

NEW YORK.

**RAILROAD IRON.**

WELSH or Staffordshire make, delivered on board at an English port or at a port in the United States.

NORRIS & BROTHER,

BALTIMORE.

6036 And 17 Nassau St., NEW YORK.

**RAILROAD IRON.**

THE RENNSSELAER IRON COMPANY,  
TROY, N. Y.,

OFFER Rails of their own manufacture deliverable as may be desired by purchasers.

**OLD RAILS**

received in exchange for new, or for re-manufacturing.

JOHN A. GRISWOLD, Agent,

TROY, N. Y.

New York Agency:

BUSSING, CROCKER & DODGE,

32 Cliff St.

**FINANCIAL.****BANKING and COMMISSION AGENCY.**

A. G. JAUDON,

No. 54 Wall street, NEW YORK.

AGENCIES of financial nature connected with Railroads, Manufacturing and Commercial Business, and Banking operations generally, receive special attention.

STOCKS, BONDS, NOTES AND BILLS OF EXCHANGE

BOUGHT and SOLD on orders.

THOMAS GEORGE WALKER.

DAVID TWEEDIE.

WALKER & TWEEDIE,

42 PINE STREET,

NEW YORK.

Business Paper and Bills of Exchange negotiated.

BONDS, STOCKS and other Securities bought and sold.

W. P. STEELE & CO.,

BANKERS,

23 WILLIAM STREET, NEW YORK.

STOCKS and BONDS Bought and Sold on Commission.

Mercantile Paper and Loans negotiated.

Advances made on all approved Securities.

COLLECTIONS MADE throughout the United States and Canadas.

**CINCINNATI STOCK EXCHANGE.**

KIRK & CHEEVER,

Stock Brokers and Railroad Agents,

NO. 63 WEST THIRD STREET,

CINCINNATI, OHIO.

Railroads Stocks, Bonds, &c., bought and sold on commission.

Regular sales at public auction at the MERCHANTS' EXCHANGE.

**R. H. RICKARD,**

MINING AGENT & STOCK BROKER,

Office No. 21 Nassau st., NEW YORK.

BUYS and sells MINING SHARES, MINES and MINERAL LANDS on commission, will examine Mines and Mineral Lands in any part of the United States, and report on their value, etc., etc.

REFERENCES.—P. Chouteau, Jr., & Co., New York and St. Louis, the Hon. Wm. M. Gwin, U. S. Senator, the Hon. C. A. Peabody, N. Y., the Hon. Sam. F. Butterworth, N. Y., Frost & Forrest, Com. M. N. Y., John F. Butterworth, Esq., N. Y., G. O. Williams & Co., Detroit, Mich., Capt. D. Tyler, Norwich, Conn., Rittenhouse, Fant & Co., Bankers, Washington, D. C.

Particular attention given to Lake Superior business.

**EUGENE THOMSON,**

STOCK AUCTIONEER AND BROKER,

No. 37 William st., NEW YORK.

AUCTION SALES of STOCKS and BONDS every

TUESDAY, at 12½ o'clock, at the Merchants' Exchange.

RAILROAD BANK, INSURANCE, and other SECURITIES bought and sold at the BROKERS' BOARD, at PRIVATE SALE, or at AUCTION. All dividends payable in New York collected, and prompt remittances made.

NON BUT BONA FIDE QUOTATIONS FURNISHED THE PRESS. THE MARKET VALUE OF SECURITIES WILL NOT BE SUPPRESSED OR ALTERED, AND DECEPTIVE OR IRRESPONSIBLE CATALOGUES WILL NEVER BE ISSUED.

A statement showing the capital, dividend months, and last semi-annual dividend of the Banks and Insurance Companies of the city of New York, will be forwarded by mail upon application.

REFERENCES.—Messrs. Wm. and Jno. O'Brien, Thos. Denny & Co., Horace Greeley & Co., Cragin & Co., Todd & Co., J. & C. Berrian, Geo. F. Neibitt & Co., Eugene Plumkett, Esq., (President Excelsior Ins. Co.), John G. Storm, Esq., (President Lenox Ins. Co.), L. G. Irving, Esq. (Secretary Niagara Ins. Co.), Marcus Spring, Esq., Oliver H. Lee, Esq., John H. Griscom, M. D., Rev. Edwin F. Hatfield, D. D., Rev. Theo. L. Cuyler, John Cameron, Esq., Benj. F. Manierre, Esq., New York; Otis Allen, Esq., Albany N. Y.; Messrs. Gormain & Co., Providence, R. I.

**A. H. DYETT,**  
STOCK AND BOND BROKER,  
No. 43 EXCHANGE PLACE,  
NEW YORK.

**MORSE & CO.,**

BANKERS and DEALERS in Stocks, Bonds, Exchange and Commercial Paper, on commission. No. 49 Wall street, and 41 William street, NEW YORK. Orders for the purchase and sale of Stocks and Bonds, at the Brokers' Board, by letter or otherwise, promptly executed.

Cash advanced on sound saleable securities.

REVERE TO  
G. VAN BAUR & CO., N.Y. CONTINENTAL BK. N.Y.

SIMEON DRAPER, Auctioneer.

By SIMEON DRAPER,  
OFFICE, No. 36 PINE ST., NEW YORK.  
REGULAR AUCTION SALES  
AT 36 PINE ST., EVERY DAY.  
STOCKS and BONDS bought and sold at private sale.  
Sale every day at 1 o'clock. See Catalogue.

**DINGEE & HOLDEN,**  
AUCTIONEERS AND REAL ESTATE BROKERS,  
No. 9 NASSAU STREET,  
Under Messrs. DUNCAN, SHERMAN & Co.

SOLOMON DINGEE, CHARLES E. HOLDEN, NEW YORK.  
Stocks, Bonds, Mortgages, & Commercial Paper Bought & Sold.

REFERENCES.

Citizens' Bank, N.Y. Hon. E. D. Campbell, Lt. Gov., W. Thompson Bros., " Hon. Judge L. D. Crosse, " Bankers, " Jno. M. Levy, Banker, " Messrs. Sewell, Ferris & Co., " Hon. Franklin Steele, Minnesota, " Geo. P. Rogers, Esq., " A. Gridley, President McLean Co., Bank, Illinois, " A. & W. A. Saunders, Bankers, Mt. Pleasant, Iowa.

**PETERS, CAMPBELL & CO.,**  
BANKERS AND DEALERS IN  
DOMESTIC EXCHANGE AND BANK NOTES,  
No. 50 WALL STREET,  
NEW YORK.

SPECIAL ATTENTION GIVEN TO  
COLLECTIONS  
IN ALL PARTS OF THE UNITED STATES.

**PETERS, SPENCE & CO.,** Lynchburg, Va.  
D. T. O. PETERS, } DAVID E. SPENCE,  
N. H. CAMPBELL, } DEXTER OTHEY.

REVERE TO  
JAS. T. SOUTER, Esq., Prost Bk Republic, } New York City  
American Exchange Bank, Banks and Bankers, Richmond and Lynchburg, Va.

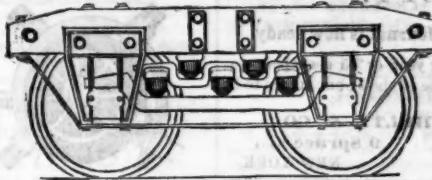
**DUNCAN, SHERMAN & CO.,**  
BANKERS,  
Corner PINE and NASSAU Sts.,  
NEW YORK.

ISSUE  
CIRCULAR NOTES AND LETTERS OF CREDIT,  
FOR TRAVELERS,  
AVAILABLE IN ALL THE PRINCIPAL CITIES OF THE WORLD.  
ALSO, MERCANTILE CREDITS,  
For use in EUROPE, CHINA, etc.

**H. MEIGS, Jr. & SMITH,**  
BANKERS and BROKERS,  
39 WILLIAM STREET,  
(First Building below Wall Street.)  
STOCKS and BONDS Bought and Sold on Commission.  
MERCANTILE PAPER and LOANS Negotiated.  
INTEREST ALLOWED ON DEPOSITS.  
HENRY MEIGS, Jr. WM. ALEX. SMITH.  
New York, May 11, 1858.

**CHAS. A. FISHER,**  
Late of the firm of FISHER, DENNY & CO.,  
No. 18 Exchange Place.  
STOCKS and Bonds bought and sold on commission. Loan  
negotiated.

# NEW YORK METALLIC CAR SPRING COMPANY,



SOLE MANUFACTURERS OF THE  
CONICAL VOLUTE STEEL CAR SPRING,  
OFFICE, 54 WILLIAM ST., NEW YORK.

C. PALMER, CHAS. D. GIBSON, RICHARD VOSE,  
Pres't. Treas'r. Sec'y.

ELASTIC CONE SPRING CO.,  
OFFICES { 20 Exchange Place, New York,  
and Jersey City, New Jersey.

# STEEL CAR SPRINGS,

MANUFACTURED  
BY THE  
PATENTEE,  
CARLOS FRENCH,  
SEYMOUR, CONN.

THESE SPRINGS are now in use on many of the leading Railroads East, South and West.  
Samples can be examined and Price Lists obtained at  
No. 5 Gold st., NEW YORK.

**JAMES JEFFRIES & SONS,**  
MANUFACTURERS OF  
LOCOMOTIVE, CAR AND TANK  
SPRINGS,  
PHILADELPHIA, (near of Girard House.)

REFERENCES.

M. W. BALDWIN & CO., R. NORRIS & SON, A. WHITNEY & SONS, Philadelphia, JOS. R. ANDERSON, Richmond; SMITH & PERKINS, Alexandria, Va.; JNO. EDGAR THOMSON, of Penn. R. R., EDWARD C. DALE, of P. G. & N. R. R.; S. RUTH, of Rich., F. & P. R. R.; THOS. DODAMEAD of Va. Central; URIAH WELLS, Petersburg, H. D. BIRD, South Side R. R., Petersburg; C. O. SANFORD, of Petersburg R. R.; JNO. B. Mc DANIEL, of Va. & Tenn. R. R.; JAS. P. ROBERTSON, of Wilmington and M. R. R.; HENRY T. PEAKE, of S. C. R. R.; S. S. SOLOMONS, of North East R. R.; JOHN FLYNN, of Western & Atlantic, R. R.; E. F. ROWARTH, of Greenville & Col. R. R.; GEO. YONGE, of Georgia R. R.; WM. CLARK, of Muscogee R. R.; W. W. BALDWIN, of Montgomery & W. P. R. R.; WM. M. WADLEY, of N. O. J. & G. N. R. R.; A. B. SEGER, of Oelopenas R. R.; C. WILLIAMS, of Vicksburg; ALLEN S. SWEET, of Buffalo and Erie R. R.; F. C. ARMS, of Memphis; H. COFFIN, of Memphis; A. WORREL, of Seaboard & R. R. R.; UNION CAR WORKS, Portsmouth; WM. M. HIGHT, of Augusta; S. & R. H. RIKERS, WHARTON & PATSCH, Charleston, and all Roads where our SPRINGS are in use.

Will be happy to furnish a SET OF SPRINGS to such companies as may wish to try their Durability and Elasticity, by writing us the Length, Width, Curve over all, and the weight which they are to bear.

**SAFEGUARD  
INSURANCE COMPANY.**  
OFFICE, 12 Wall st., NEW YORK;  
409 Walnut st., PHILADELPHIA.

CAPITAL, \$200,000.

**THE SAFEGUARD INSURANCE COMPANY**  
having retired that portion of the Capital Stock which was based upon Securities out of this State, are now prepared to continue the Insurance business, and will insure against loss or damage by Fire, on Houses, Merchandise, Leases and the risks of Inland Navigation, on as favorable terms as other Companies.

DIRECTORS.

JACOB N. KELLER,	EDWARD WILDER,
CHS. F. WATROUS,	JOHN PRENTICE,
WILLIAM FORBES,	P. E. BIRKHEAD,
MATTHEW KELEY,	HON. S. B. CUSHING,
FRANCIS BLACKBURNE,	ELIHU J. BALDWIN,
C. B. ENGLISH,	JOSHUA M. BEACH,
J. A. H. HASBROUCK,	BENJAMIN F. STILES,
A. C. LAWRENCE,	GEORGE H. LEWIS,
ROBERT P. KING,	JOS. H. STIDFOLD,
JACOB N. KELLER, Pres't.	ALBERT WELLES, V. Pres't.
HENRY R. FOOTE, Secretary.	

# WEISSENBORN'S PATENT Incrustation Preventer FOR STEAM BOILERS,

EFFICACIOUSLY obviates the Formation of Scale  
on the Plates by separating the incrusting matter  
from the water before it enters the boiler, at the same time  
condensing a large portion of the steam and supplying the  
purified water to the boiler at about boiling heat. The apparatus  
is compact, simple, and applicable to all kinds of Engines.

Recent modifications render it still more efficient than heretofore  
Testimony as to its successful operation in preventing scale,  
and also as a HEATER AND CONDENSER, can be furnished by the subscriber.

Probably no modern improvement connected with Steam  
Power combines so many advantages as this. The economy  
of Fuel alone from its use soon repays the  
cost of the apparatus. Prices reduced. Terms easy.

STEWART KERR, Engineer,  
Agent, 15 Broadway, NEW YORK.

**JOURNAL**  
OF THE  
American Geographical and Statistical  
SOCIETY.

The Sixth Number of this Journal is now ready.

Subscription Price, \$3.00 per year, or 35 cents per copy.  
Letters relating to the business of the JOURNAL are to be addressed to the Publishers

JOHN H. SCHULTZ & CO.,  
9 Spruce st.,  
NEW YORK.

**VULCANIZED RUBBER GOODS,  
MACHINE BELTING,  
STEAM & PISTON PACKING,  
HOSE OF ALL DESCRIPTIONS,  
SHOE SOLEING,  
LACE LEATHER,  
VALVES,  
FIRE BUCKETS, ETC.**

The undersigned, Wholesale Agents of the **BOSTON BELTING COMPANY**, beg to call the attention of DEALERS and JOBBERS to the above mentioned goods, which are conceded by all practical mechanics to be

**THE BEST PRODUCED.**

For list of prices, and a full description of goods, terms, etc., apply to

**BRAMHILL & CAMPBELL,  
190 William st., near Spruce, NEW YORK.**

**RADLEY & HUNTER'S  
IMPROVED  
SPARK ARRESTER.**

RADLEY & HUNTER'S CELEBRATED  
NEW INVENTION is now offered to the  
public as a **Perfect Spark Arrestor**,  
which possesses the advantage over ALL  
OTHERS of being of the most simple  
construction, and much more durable  
than any ever used. The manufacturer  
invites an examination of this Arrestor  
by the Railroad public, confident  
that it will meet with universal approbation.

The undersigned hereby gives public notice  
that he is the **sole manufacturer** of  
the above article under the Radley &  
Hunter Patent, of whom alone they can be  
purchased in the United States.

**EDWIN R. BENNET,  
Office 82 Duane St., New York.**



**SCIENTIFIC AMERICAN.**  
**MUNN & CO.,**  
AMERICAN AND FOREIGN  
PATENT SOLICITORS,  
Office 37 Park Row, and 145 Nassau st., N. York.  
PAMPHLETS OF ADVICE "How to procure American and  
Foreign Patents," furnished by MUNN & CO., free of  
charge. Address as above.

**JAMES C. LANE,**  
Ex-Chief Engineer of Explorations in South-America, etc.  
MECHANICAL AND CONSULTING ENGINEER,  
Times Building, 41 Park Row.  
Room No. 4, NEW YORK.

**PATENTS NEGOTIATED.**

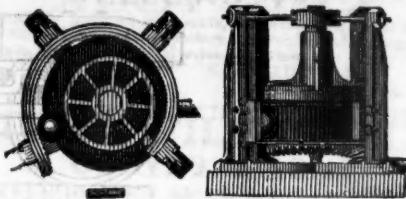
DRAWINGS, Specifications, and Models, (metal or wood.)  
Applications for Patents, and all business whatever connected  
with Patents attended to with economy and despatch.  
Application for PATENT, including drawings, specifications  
and Patent Office fees, \$60.

**Patents for Inventions.**

T. D. STETSON, Agent for procuring patents, No. 5 Tryon  
Row, (near City Hall). A circular with full information  
sent free by mail.

American correspondent Proc. Mechanics' Jour. from 1854.

**HENRY BURDEN'S  
PATENT REVOLVING  
SHINGLING MACHINE.**



THE subscriber having recently purchased the Right of this Machine for the United States, now offers to make transfers of the Right to run said Machine, or sell to those who may be desirous to purchase the Right for one or more of the States.

This Machine is now in successful operation in ten or twelve Iron Works in and about the vicinity of Pittsburg, also at Phenixville, and Reading, Pa., Covington Iron Works, Md., Troy Rolling Mills, and Troy Iron and Nail Factory, Troy, N. Y., where it has given universal satisfaction.

Its advantages over the ordinary Forge Hammer are numerous:

Considerable saving in first cost; saving in power; the entire saving in shingler's, or hammerman's wages, as no attendance whatever is necessary.

It being entirely self-acting; saving in time from the quantity of work done, as one machine is capable of working the iron from sixty puddling furnaces; saving of waste, as nothing but the scoria is thrown off, and that most effectually; saving of staffs, as none are used or required.

The time required to furnish a bloom being only about six seconds, the scoria has no time to set, consequently is got rid of much easier than when allowed to congeal, as under the hammer.

The iron being discharged from the machine so hot, rolls better and is much easier on the rollers and machinery.

The bars roll sounder, and are much better finished.

The subscriber feels confident that persons who will examine for themselves the machinery in operation, will find it possesses more advantages than have been enumerated.

For further particulars address the subscriber at Troy, N. Y.

P. A. BURDEN.

**Patent Reversible Baggage Check.**



**PROFESSIONAL CARDS.**

**Sylvester W. Barnes,**  
Chief Engineer Watertown and Madison R.R., Madison, Wis.

**Alfred W. Craven,**  
Chief Engineer Croton Aqueduct, New York.

**Charles W. Copeland,**  
Steam Marine and Railway Engineer,  
122 Broadway, New York.

**Davidson, M. O.,**  
Chief Engineer Havana Railroad Company,  
HAVANA, CUBA.

**C. Floyd-Jones.,**  
Division Eng'r 3d and 12th Divisions, Illinois Central R. R.,  
Vandalia, Ill.

**Gay, Edward F.,**  
Civil Engineer, Philadelphia, Pa.

**Robert B. Gorsuch,**  
City of Mexico,  
MEXICO.

**James H. Grant,**  
Civil Engineer, Christiansburg, Rutherford Co., Tenn.

**Theodore D. Judah,**  
Chief Engineer and Commissioner of  
San Francisco and Sacramento Railroad, and of  
San Francisco and Sacramento Northern Extension Railroad,  
SAN FRANCISCO, Cal.

**S. W. Hill,**  
Mining Eng'r and Surveyor, Eagle River, Lake Superior.

**Ellwood Morris,**  
Civil Engineer, Franklin Institute, Philadelphia.

**Mills, John B.,** Civil Engineer,  
Lake Ontario and Hudson R. R. R., 20 Exchange Place, N. Y.

**Osborne, Richard B.,**  
Civil Engineer, Office 73 South 4th st., Philadelphia.

**W. Milnor Roberts,**  
Civil Engineer, Carlisle, Pa.

**J. S. Sewall,**  
CIVIL ENGINEER,  
ST. PAUL MINES.

**Silas Seymour,**  
Consulting Engineer and General Agent,  
271 Broadway, N. Y.

**Shanly, Walter,**  
Grand Trunk Railway, Toronto, Canada.

**Charles L. Schlatter,**  
Chief Engineer Brunswick and Florida Railroad,  
Brunswick, Georgia.

**Charles B. Stuart,**  
Consulting Engineer, 19 Nassau str., New York.

**Trautwine, John C.,**  
Civil Engineer and Architect, Philadelphia.

**A. B. Warford,**  
Chief Engineer, Susquehanna Railroad, Harrisburg, Pa.

**INSTRUMENTS.**

**Hugo Harttman,**

MANUFACTURER of Engineers' and Surveyors' Instruments,  
223 Dock st., PHILADELPHIA.

**E. BROWN & SON,**  
MANUFACTURERS OF  
TRANSITS, LEVELS,  
RODS, CHAINS, ETC.  
No. 27 FULTON SLIP, N. Y.

INGENEERS' AND SURVEYORS'  
INSTRUMENTS, MADE BY  
**Edmund Draper,**  
Surviving partner of  
**STANCLIFFE & DRAPER,**

No. 22 Pear Street,  
below Walnut,  
near Third St.,  
PHILADELPHIA.

**J. T. Hobby,** (formerly SAWYER & HOBBY,)  
MATHEMATICAL Instrument Maker, at the old stand,  
156 Water st., NEW YORK.  
1883

**James Prentice,**

66 NASSAU St., N. Y., Manufacturer of Mathematical Instruments of every description. Orders promptly filled.

**W. & L. E. Gurley, Troy, N.Y.,**  
MANUFACTURERS of Engineers' and Surveyors' Instruments. Descriptive and priced catalogue gratis.

**Knox & Shain,**  
MANUFACTURERS of Engineering & Telegraphic Instruments,  
40 X Walnut, Phila. (Two premiums awarded.)

**F. W. & R. King,**  
MANUFACTURERS of Engineers', Surveying and Drawing Instruments, No. 226 Baltimore st., BALTIMORE, Md.

**Richard Patten,**  
MANUFACTURER of Mathematical Instruments to the  
U. S. Government, No. 58 Baltimore st., BALTIMORE, Md.

**James W. Queen & Co., Philadelphia,**  
MANUFACTURERS of Engineers' Levels, Transits,  
Chains, Tapes, &c. Priced catalogues by mail gratis.

**Wm. J. Young**  
HAS removed his Engineering and Surveying Instrument  
Manufactory to No. 43 North Seventh Street, Philadelphia.

**H. Sawyer**  
(of the late firm of SAWYER & HOBBY,)  
MANUFACTURER of Transits and Levels, and  
to Union Place, near Washington Av. Yonkers, N. Y.

**S. B. BOWLES,**  
MANUFACTURER AND DEALER IN  
**RAILROAD SUPPLIES,**  
No. 12 GOLD STREET,  
(Between PLATT and MAIDEN LANE,) NEW YORK.

**HOLT, GILSON & CO.,**  
MANUFACTURERS AND DEALERS

IN  
**RAILROAD & STEAMBOAT SUPPLIES,**

5 WATER ST., BOSTON.  
**LOCOMOTIVES AND CARS.**

Rails, Sleepers, Chairs, Spikes, Wheels, Axles and Tires.

BOILER TUBES AND FELTING.

**BOLTS, NUTS & WASHERS.**  
CAR, SHIP AND BRIDGE BOLTS.

Locomotive, Hand and Ship Lanterns; Car Trimmings of all descriptions; Steam and Water Gauges; Signal Bells, etc., etc.

**AGENTS FOR CAR HEAD LININGS.**

Sole Agents for TOMEY'S celebrated GAUGE GLASSES, and PACKER'S IMPROVED RATCHET DRILL.

Orders filled with despatch and at the lowest prices.

#### RAILROAD SUPPLIES.

**GILBERT, MURDOCK & CO.,**  
No. 64 Exchange Place,  
**NEW YORK,**

Are agents for, and prepared to furnish at manufacturers' prices,

**RAILROAD IRON,**  
LOCOMOTIVE ENGINES,  
**RAILROAD CARS,**  
CAR WHEELS,  
AXLES, CHAIRS,  
SPIKES, TOOLS,  
**ETC., ETC.**

All inquiries in reference to the above articles will receive immediate attention.

New York, January, 1859.

**GEO. M. FREEMAN,**  
SUCCESSOR TO

**PRATT & FREEMAN,**  
PHILADELPHIA  
**RAILWAY SUPPLY AGENCY,**  
No. 123 WALNUT STREET,  
**PHILADELPHIA.**

Railroad Materials, Locomotive and Car Findings, MACHINERY AND MACHINISTS' TOOLS, MINERS' TOOLS, ETC.

**COTTON WASTE.**

WHITE AND YELLOW CAR GREASE, LOCOMOTIVE BRASS WORK, Baggage Checks, Barrows, etc., etc.

RAILROAD LANTERNS, SIGNAL LIGHTS, STEAM GAUGES, COCKS AND WHISTLES, INDIA RUBBER HOSE PACKINGS, ETC. LANTERNS OF ALL DESCRIPTIONS, ENGINE, STATION, AND SIGNAL BELLS,

**Superior Car Upholstery, etc.**

AGENCY OF THE KEROSENE OIL COMPANY.

Orders solicited, promptly filled, and forwarded with despatch and care at the manufacturers' lowest prices.

MORRIS K. JESUP. JOHN KENNEDY. GILDED A. SMITH.  
**M. K. JESUP & COMP'Y,**  
RAILWAY AGENTS & BANKERS,

44 EXCHANGE PLACE,

**NEW YORK,**

AGENTS FOR THE SALE OF

Foreign and American Railroad Iron,

AND ALL MATERIALS NECESSARY FOR THE

Construction, Equipment & Operating of Railways.

**RAILWAY AND OTHER SECURITIES**

**BOUGHT AND SOLD**

Either privately or at the Board of Brokers.

**A. S. & A. G. WHITON**

32 FINE ST., NEW YORK,

DEALERS IN

**RAILROAD IRON,**

**CHAIRS AND SPIKES,**

LOCOMOTIVES,

PASSENGER AND FREIGHT CARS.

MANUFACTURERS' AGENTS

FOR Zoller's Iron Turn Tables, Dimples' Patent Blower, Gardner's Volute Car Springs and

**RAILWAY SUPPLIES GENERALLY.**

ALSO

NEGOTIATORS OF SECURITIES.

**A. BRIDGES & CO.,**

MANUFACTURERS AND DEALERS IN

**RAILROAD AND CAR**

**FINDINGS,**

OF EVERY DESCRIPTION,

64 COURTLAND ST., NEW YORK.

**RAILROAD AXLES, WHEELS AND CHAIRS,**

**SPIKES, BOLTS,**

NUTS, WASHERS,

**CAR, SHIP AND BRIDGE BOLTS.**

IRON FORGINGS OF VARIOUS KINDS, ETC., ETC.

STEEL AND RUBBER SPRINGS,

LOCOMOTIVE AND HAND LANTERNS,

PORTABLE FORGES AND JACK SCREWS,

COTTON DUCK FOR CAR COVERS,

BRASS AND SILVER TRIMMINGS.

Also, Sole Agents for the Manufacturers of Car Head Linings.

Orders for the purchase of goods on commission, aside from our regular business, respectfully solicited.

ALBERT BRIDGES. JOEL C. LANE.

**RAILROAD SUPPLIES.**

**WILLIAMS & PAGE,**

No. 44 Water, between Congress and Kilby Streets,

**BOSTON, MASS.**

Iron Rails, Chairs, & Spikes, FREIGHT AND COAL CARS,

(On hand or made at short notice.)

Wheels and Axles of all kinds,

LOWMOOR, AMES, BOWLING AND NASHUA TIRES,

**IRON AND STEEL,**

Of all kinds for Shops and Tracks.

Car Trimmings, Paints, Oil, Varnish, Car and Switch

Locks, Ventilators, Lanterns, Head-Lights, Gauges, Rubber

Springs, Chairs, Hose and Belting, Ash, Pine and other Timber,

and ALL MATERIALS USED in Equipment and Repairs of

Railroads, Engines and Cars, at lowest prices.

THOS. S. WILLIAMS. PHILIP S. PAGE,

Late Sup't Boston & Maine R. R. Late PAGE, ALDEN & CO.

REFERENCES.

JAMES HAYWARD, President PHELPS, DODGE & CO., N. Y.

Boston and Maine R. R. COOPER, HEWITT & CO., do.

Capt. WM. H. SWIFT, Boston. REEVES, BUCK & CO., Phila.

WM. E. COFFIN & CO., do. E. S. CRESSHOUR, Chicago.

S. M. FULTON, Pres't Phila. W. & B. R. R.

#### PATENT MICA AND FIBROUS CEMENT ROOFING

THIS CEMENT consists of strong glutinous substances, impregnated with fibrous matter, and covered with Mica, which makes it FIRE PROOF, and a perfect resist-  
ant of the atmosphere in every climate. It will neither crack nor rot, and we warrant it WATER PROOF.

It is well adapted to cover large roofs where they are exposed to fire, such as Railroad Cars, Bridges, Depots, Station Houses, Steamboat Decks, Factories, Steam Mills, and in fact, every kind of Roof. As the material forms a smooth surface, without a joint, it presents no chance for fire to communicate. For further particulars address

**JOSEPH DITTO & CO.,**

378 Broadway, NEW YORK.

N. B.—Cement for sale by the barrel, with full printed instructions for applying. Also for sale, Territorial Rights for a portion of the United States.

JOSEPH DITTO & CO.

#### CEMENT, PLASTER, ETC.

THE HUDSON RIVER CEMENT CO.

HAVE commenced manufacturing for the season, and can now furnish a very superior article of fresh Rosendale Cement, Calcined Plaster, Farmers' Plaster and Marble Dust. Address

HUDSON RIVER CEMENT COMPANY,

12 Jersey City, N. J.

#### Rosendale Hydraulic Cement.

THE NEWARK AND ROSENDALE CEMENT COMPANY are now receiving fresh from the Mills their approved ROSENDALE CEMENT, warranted pure and free from quick lime, and which has given such general satisfaction in the various government and other public works in which it has been used. Purchasers and shippers should be careful to get the genuine ROSENDALE CEMENT, branded "NEWARK AND ROSENDALE," "H. WILDE." This Cement does not swell and burst the hoops when stored in warm climates. It is packed in tight kiln dried barrels, and is specially adapted for safe shipping on long voyages. Terms reasonable, which may be known by addressing.

JOHN H. STEPHENS, President, Newark, N. J., or HENRY WILDE, Secretary, 90 Wall st., N. Y.

#### DELAFIELD & BAXTER'S, Late OGDEN & DELAFIELD, ROSENDALE CEMENT.

WE are prepared to enter into arrangements for supplying our CEMENT for public works, or other purposes. We warrant it equal in every respect to any manufactured in this country. It attains a great degree of hardness, sets immediately under water, and is a superior article for masonry coming in contact with water, or requiring great strength.

For sale in tight barrels, well papered, on application at their office, by DELAFIELD & BAXTER, 104 Wall st.

The above CEMENT is used in most of the fortifications building by government.

45

#### CAR AXLE WORKS.



A. & P. ROBERTS,  
**PENCOYD IRON WORKS.**  
OFFICE NO. 410 WALNUT STREET,  
**PHILADELPHIA.**  
Rolled or Hammered Car Axles, Bar Iron  
and Forgings.

#### ST. LOUIS STEAM FORGE.



ROBERTSON & LOWE,  
COR. MAIN AND CEDAR STREETS,  
ST. LOUIS, MO.,

MANUFACTURE

**CAR AXLES,**

AND EVERY DESCRIPTION OF

**LOCOMOTIVE FORGINGS.**

ALSO,

STEAMBOAT SHAFTS, CRANES, TOBACCO SCREWS,

HAMMERED BAR IRON,

AND EVERY VARIETY OF

Forgings for Machinists' Use.

#### RAILROAD IRON.

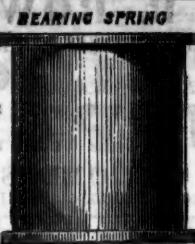
THE subscribers are prepared to contract for RAILS delivered at an English port or at a port in the United States. Also for all descriptions of

#### RAILROAD EQUIPMENTS

upon favorable terms.

JOHN W. HULL & CO.,

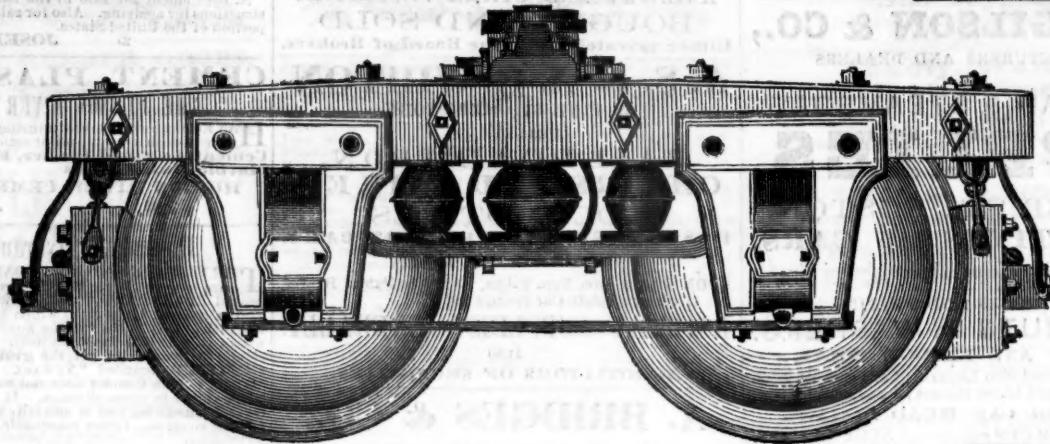
No. 41 Exchange Place, NEW YORK.



## New England Car Spring Co.

SOLE MANUFACTURERS

OF THE



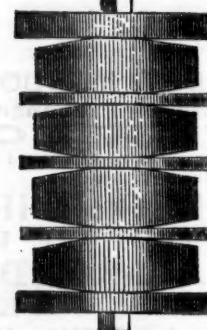
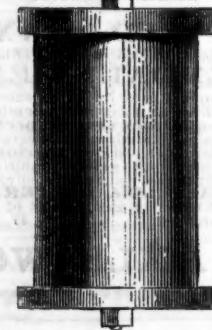
BUFFER & SPRING

IMPROVED BUFFER

## India Rubber Car Springs.

OFFICE, 61 CHAMBERS STREET,

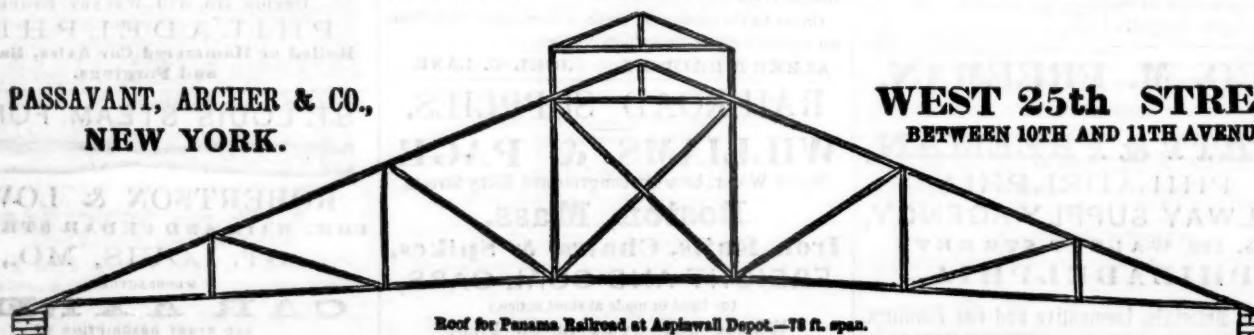
NEW YORK.



## WROUGHT IRON ROOFING.

PASSAVANT, ARCHER & CO.,  
NEW YORK.

WEST 25th STREET,  
BETWEEN 10th AND 11th AVENUES.



Roof for Panama Railroad at Aspinwall Depot.—75 ft. span.

Wrought Iron Roofs with Corrugated Iron, (Black or Galvanized) or Slate Covering.

PASSAVANT, ARCHER & CO. refer to many roofs put up in New York, Brooklyn, and other parts of the United States of from 12 ft. to 100 ft. span.

**IRON HOUSES.**      **IRON BRIDGE TRUSSES.**  
**WROUGHT IRON RAILROAD CARS.**

**SAWYER, TINKER & CO.,**  
MANUFACTURERS OF  
**COTTON DUCK,**  
For Car Roofing, of all widths, up to 140 in.  
PATENT COTTON BELTING, cost about one-third of Leather.  
OFFICE, 52 BEEKMAN ST., NEW YORK.

Leather Belting and India Rubber Hose.

**PHILIP F. PASQUAY,**  
25 Spruce st., New York,

MANUFACTURER of Superior Oak Tanned Stretched and Riveted MACHINE LEATHER BELTING.  
Best Lace Leather and Steel Hooks, always on hand; also Dealer in Vulcanized India Rubber Goods—viz, Croton and Steam Hose of all sizes. Steam and Piston Packing.

WATERBURY BRASS AGENCY,

ALEX. ANDERSON, AGENT,  
52 BEEKMAN STREET, NEW YORK,

SHEET BRASS,  
COPPER AND BRASS WIRE,  
BRASS AND COPPER TUBING,  
COPPER RIVETS AND BURS, ETC.  
Manufactured at WATERBURY, CONN.